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ABSTRACT

This publication is a report of an Environmental Education Conference sponsored by the Alliance for Environmental Education and Western Regional Environmental Education Council at Snowmass, Colorado. The purpose of the conference was to study the progress of environmental education throughout the nation, to report the major concerns, and to make recommendations to best solve the existing problems. This report is the second of two concerning the Snowmass, Conference. The first is essentially a summary of the conference output. In this second volume, more background information and greater detail is provided. Specifically, it contains reports of the eight interest groups as proposed, developed, and approved by the members of each group, along with summaries of the addresses of the six members of the keynote panel. Included in this report are background papers, a paper responding to the remarks of the keynote panel prepared by the "federal agencies" interest group, and appendices containing information relating to the sponsoring organizations, agenda, and participants in the conference. (Author/MA)

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environmental education:

perspectives & prospectives

Supporting Documentation

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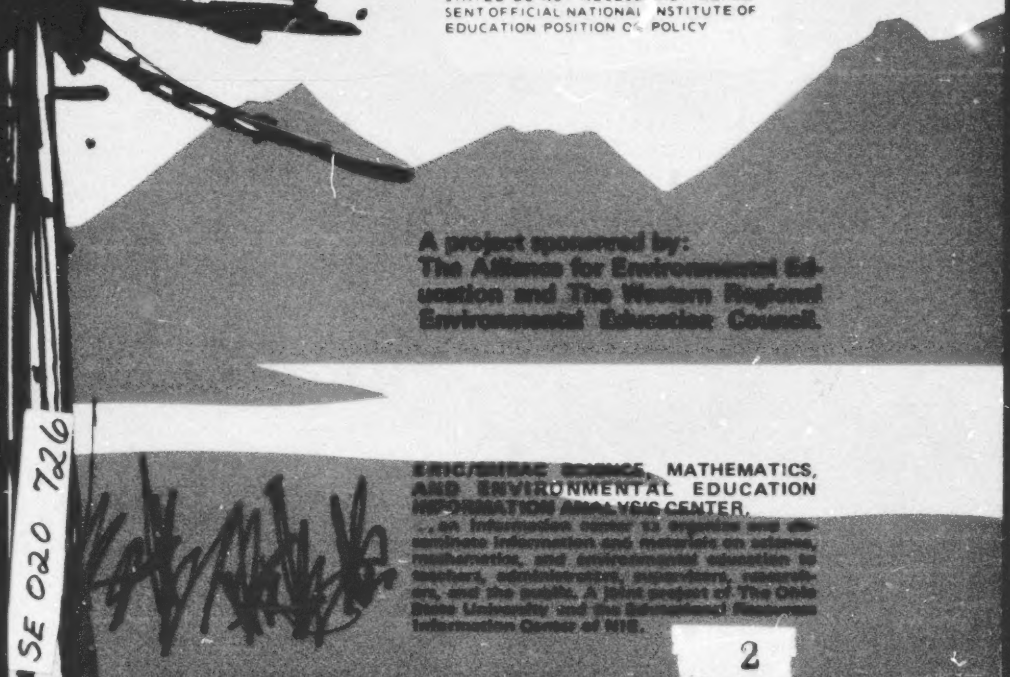

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ENVIRONMENTAL EDUCATION PERSPECTIVES AND PROSPECTIVES

A report of a conference held July 6–12, 1975, at Snowmass, Colorado, to determine the current status of environmental education nationally, to establish long and short range objectives, and to suggest strategies for achievement of those objectives.

SUPPORTING DOCUMENTATION

Edited by

Rudolph J. H. Schafer
and
John F. Disinger

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ENVIRONMENTAL EDUCATION INFORMATION REPORTS

Environmental Education Information Reports are issued to analyze and summarize information related to the teaching and learning of environmental education. It is hoped that these reports will provide information for personnel involved in development, ideas for teachers, and indications of trends in environmental education.

Your comments and suggestions for this series are invited.

John F. Disinger
Associate Director
Environmental Education

Publication sponsored by the Educational Resources Information Center of the National Institute of Education and The Ohio State University.

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CONTENTS

Page

INTRODUCTION vii

INTEREST GROUP REPORTS

Key Issues. 3
Elementary and Secondary Education. 7
Higher Education. 13
Federal Government Agencies 17
State Agencies. 21
Labor, Industry and Business. 26
Private Environmental Organizations 32
Communication and Dissemination 36

THE KEYNOTE PANEL

#1 National Environmental Education Perspectives
by Clay A. Schoenfeld. 43
#2 Programs or People?
by Edward Landin 46
#3 Planning and Leadership
by Richard Rocchio 47
#4 Positives and Negatives
by Jerome Perlinski. 49
#5 Blending the Theoretical and Practical
by Russell M. Agne 52
#6 The Dilemma
by Noel McInnis. 54

APPENDICES

A. Conference Agenda 59
B. Response (Validation) by the Federal Agencies Group of the Information Presented by the Keynote Panel. 61
C. Preliminary Report for Higher Education 62
D. Subcommittee on Environmental Education of the Federal Interagency Committee on Education. 71
E. Environmental Education Projects and Activities in Federal Agencies: A Sampler. 75
F. Alliance for Environmental Education - Affiliated Organizations 79
G. Western Regional Environmental Education Council - Participating Agencies. 80
H Conference Committee 81
I Conference Participants. 82
J Sin, a poem. 84

ENVIRONMENTAL EDUCATION—PERSPECTIVES AND PROSPECTIVES

Supporting Documentation

Introduction

In planning the publication of the proceedings of the Snowmass Conference on Environmental Education, members of the conference committee agreed that a mere transcription would be unlikely to serve the objectives of the conference:

> The purpose of the conference is to bring together a select group of people representing a wide variety of expertise and interests in the field of environmental education to: (1) review the status of programs and accomplishments in the field; (2) identify ideals and develop objectives toward which we should be working; and (3) suggest ways and means for achieving these objectives.
>
> Specific issues in various fields of expertise will be studied and recommendations made to appropriate audiences. Major and overriding concerns which affect a number of fields of expertise will be studied, and recommendations made to a number of audiences.
>
> The product of the conference will be a concise written report summarizing the findings and recommendations of the participants. The report will be distributed to designated general and specific audiences and will hopefully result in action directed toward channelizing and directing human, financial, and other resources into effective and coordinated environmental education programs throughout the nation.

With these objectives in mind, a series of decisions was made which led to the publication of two conference reports, of which this is the second. The first report, Environmental Education - Perspectives and Prospectives: Key Findings and Major Recommendations, contains the summary of the conference output, essentially as agreed upon by vote of conference participants at a general session at the conclusion of the three-day session.

This second volume is intended, as its title indicates, to provide greater detail and more background information than was printed in the first report. Specifically, it contains reports of the eight interest groups as proposed, developed, debated, and ultimately approved by the members of each group, along with summaries of the addresses of the six members of the keynote panel. Also

included in this report are a paper responding to the remarks of the keynote panel prepared by the "federal agencies" interest group, background papers, and appendices containing information relating to the sponsoring organizations, agenda, and participants in the conference. The reader of this Supporting Documentation report is advised to consider it in relation to the first report; it does not stand best alone.

Rudy Schafer, conference chairman, pointed out in the introduction to the Key Findings and Major Recommendations report that the Snowmass Conference on Enviromental Education brought together a number of individuals representing both themselves and a multiplicity of organizations and agencies active in environmental education. Much effort has been devoted since the conclusion of the conference to the development of final reports adequately summarizing their efforts and representing their viewpoints. Because, as Clay Schoenfeld noted at the final general session of the conference, diversity is the name of the game, it is unlikely even at this point that complete agreement of all participants could be achieved with respect to all details of these reports. Therefore, they are here presented as the compromises which they in fact are, but with some assurance that they represent the essence of the conference.

John F. Disinger
Associate Director
Environmental Education
ERIC/SMEAC

December 1975

INTEREST GROUP REPORTS

Group Report: KEY ISSUES

Participants: Peggy Charles, Robert A. Kimball, Pam Landers, Ed Landin, Noel McInnis, Nancy Noeske, Richard Rocchio, David Walker (chr), Jonathan Wert.

Attention of the "Key Issues" interest group was directed primarily toward: (1) role identification and methodology for environmental education specialists; and (2) interrelationships between environmental education and the federal government.

Role Indentification

An environmental education specialist should be a person with broad awareness of all pertinent fields, skilled in learning environments, who works with learners. Appropriate skills include:

1. ability to assist learners in assessing their concerns, questions, needs and problems;

2. ability to provide real and simulated experiences which enable learners to explore their concerns and needs;

3. ability to assist learners in discovering answers and solutions based on these experiences;

4. ability to provide human and material resources ("content") which can give learners information to conceptualize, validate and expand upon their discoveries;

5. ability to help learners plan for new experiences which expand their skills and knowledge, thus raising still more concerns and questions.

For the learner, this means meeting his own expressed needs. It makes environmental education relevant, teaches him how to learn on his own, and provides content appropriate to the moment.

To better illustrate this role, the following examples are offered:

During the planning stages for a major governmental or industrial project in a community, the environmental education specialist can facilitate hearing-like forums where a workshop format is used to raise concerns, questions and problems, and to seek answers and solutions. In such a forum, all sides learn from each other as

well as from those with specific expertise. This is insured through participation of people representing the several sides of the issue, together with those expert in the various sub-issues involved. Such processes are not "new" in the sense that they have never been tried; they are now in use by the Bureau of Land Management in Montrose, Colorado; the Fish and Wildlife Service's community-based environmental education programs in the Great Lakes Region; the United States Forest Service in Colorado; the Agricultural Extension Service at University of Wisconsin; the Center for Research and Education in Denver.

Another example, more specifically related to classroom work, might be the teacher's use of a game or simulation, supplemented by specific content related to the expected outcomes of the learning experience.

This role definition is based on recognition of the impossibility of any one person possessing expertise in all pertinent fields, though an environmental educator should be expert in one or two.

Such a facilitating role is already being partially employed by most educators teaching interdisciplinary environmental courses in formal education settings. They perform the role primarily by bringing experts or materials from other disciplines into the classroom. What is here proposed are simply extension and improvement of the use of such resources.

Further proposed are:

1. That an environmental education specialist should orient his/her efforts toward stated needs of the audience, assuming that

   a) audiences learn best when content is directly relevant to them, and

   b) non-formal education programs must be geared toward the needs of the audience, or there will be no audience.

   This proposal implies that the facilitator will properly utilize a variety of needs assessment processes to this end, viz.,

   a) providing experiences which elicit questions, needs, or problems,

   b) answering individual requests, and

   c) identifying and meeting unexpressed needs from experience.

2. That an environmental education specialist should provide the audience access to a wide and balanced range of answers

or solutions so that the specialist maintains impartiality. Thus, it becomes the information input provided by appropriate experts or experience which forms the basis for learners finding their own answers and solutions.

3. That environmental education teach processes of problem solving in the course of aiding a group or individual to seek solutions. This does not imply elimination of content; it is impossible to learn processes without content. Rather, teaching processes enables the learner to seek out appropriate expertise on his own, providing him with a productive, efficient means of so doing.

4. That the environmental educator accept the responsibility of helping educate the experts (i.e., the resource people he uses as information sources) in the most appropriate means of responding to requests made of them, so that they are better equipped to respond to the questions and needs addressed to them, their organizations or agencies, and their fields of expertise.

These proposals are intended to imply a feedback communications system between people with concerns, questions and needs, verbalized or not, and resources/expertise. As each communicates with the other, aided and catalyzed by the environmental educator, each will presumably cause changes in the responses of the other. Such a role is for the most part absent in American society; it is a vital one, appropriately filled by the environmental educator acting as a facilitator.

These proposals do not imply need to create new educational methodology. All are being used successfully, in whole or in part, on campuses and in communities across the country--by the Minnesota Regional Environmental Education Council, in the College of Engineering at the University of Utah, and in most Peace Corps training conducted since 1968 around the world. All of these, and others, have developed methods for measuring both the outcomes of learning, often using specific objectives and criteria, and the costs in money, materials and manpower. Thus, there is no reason to believe that accountability is lacking.

Federal Involvement in Environmental Education

The "Key Issues" group suggests that the work now being done by the Environmental Education Subcommittee of the Federal Interagency Committee on Education (FICE) be re-examined; such re-examination should, in part, consider the following questions:

1. Is it necessary that the federal government assume a major leadership role in environmental education?

2. How will the promulgation of a taxonomic set of environmental concepts be accepted by teachers, when previous

attempts in various discipline areas have been rejected by them?

3. Would the existing subcommittee be improved by representation from such agencies as Health, Education and Welfare; Housing and Urban Development; Commerce; Labor; Defense; Energy Resource Development; and others?

4. How will the Environmental Education Subcommittee of FICE, located in Washington, obtain input from federal government personnel outside Washington, and from non-federal sources?

5. Is it always the federal government's role to set policy, or can the federal government, through its agencies, act as a resource?

Environmental educators should support the extension of the National Environmental Education Act. This statement is concerned only with the law itself, not with the congressional appropriations process or with the current administration of the law by Department of Health, Education and Welfare.

Members of this "Key Issues" group will seek the names of those willing to begin work now to develop strategies and carry out the marshalling and energizing of this support, and to examine and propose changes in the way the law is written.

Group Report: ELEMENTARY AND SECONDARY EDUCATION

Participants: Mrs. Edward J. Ambry, Martha Causway, Grant R. Cary, Alice Cummings (chr), William W. Elam, William B. Hemmer, Duane B. Kelly, Robert B. Lewis, James Moyer, Robert W. Schneider, Alan D. Sexton, Virginia A. Stehney, Gertrude Tempe, Herbert H. Wong.

In the eighth decade of the twentieth century, the process of environmental education has not in large measure achieved its potential as a style of teaching, a process, a way of life because:

1. consensus has not been reached on definition;
2. a myth has been promulgated that environmental education is a body of knowledge complete with a delivery system for content, skill development, and concept awareness;
3. efforts to replace restrictive curricular structures with programs using an environmental framework have stagnated;
4. environmental education as an underlying philosophy for education, per se, has not been generally adopted, because of unawareness of environmental education as an underlying philosophy;
5. many educators are reluctant to utilize development, clarification and modification of value techniques;
6. systems approaches to greater environmental awareness are not understood by educators because of ignorance of their viability;
7. futures approaches are untried because of lack of knowledge and skill in application, as well as fear of new techniques; and
8. the present inflexible system works to prevent all educators from becoming change agents.

The above conditions stem from a multitude of causative factors, including:

1. content orientation;
2. lack of financial support;
3. irrelevant curricula;

4. lack of wholism, with placement of limits;

5. lack of use of community resources;

6. lack of ability to deal with the "either/or" syndrome;

7. lack of interdisciplinary approaches;

8. lack of leadership;

9. lack of communication;

10. lack of coordination of efforts;

11. use of new programs as total solutions;

12. mistaken identification of outdoor education as being synonymous with environmental education;

13. confused treatment of environmental education at the post-secondary level;

14. ignoring the social, economic and political ramifications of environmental problems;

15. constraints placed upon educators, in terms of training, time, materials, funds, and unadaptability of commercial materials;

16. lack of understanding and/or willingness by school boards and administrators for refocusing and reprioritizing;

17. inability of state superintendents of public instruction and the United States Office of Education to resist pressures from conflicting political thrusts, and therefore to provide leadership;

18. tendency to make environmental concerns the scapegoat for the current economic crisis;

19. lack of education to equate the condition of hunger with caring (viz., survival priorities);

20. low risk-taking profile of educators to trade off to achieve environmental education payoffs; and

21. lack of local and state legislative mandates for environmental education.

However, there are strong elements within society and the educational system which can and must be mustered to make environmental education a viable force locally, nationally and globally:

1. students are receptive;

2. teachers are interested and concerned;

3. outstanding programs continue to be spearheaded by individuals, or by enclaves of school and non-school individuals;

4. ethical orientations, with concern for the future, are held by many within a dedicated and available corps of concerned individuals; and

5. citizens have indicated support of efforts to improve environmental quality, and would support wound environmental education in the schools

Lifekind is now facing a critical choice:

1. to recognize impending disaster, which must result if present actions of the species continue at current rates, and, having recognized the inevitable consequences, to plan for and implement sound courses of present and future action; or

2. to accept the inevitable, make no plans for change, take no action, and permit the future to determine the human condition.

The most critical issue is maximization of lifestyles on a planet with finite carrying capacity. At the elementary and secondary levels, and at all levels, environmental education must be infused with an understanding of the basic choice. Education's challenge, then, is to:

Goals

1. Develop an environmentally active citizenry through a valuing process aimed at decision making based on environmental literacy. Such literacy includes a better understanding of interrelationships and fair trade-offs among the environment, energy, and economy by:

   a) developing an understanding that human needs are dependent upon the natural world for physical life and the quality of relationships with others;

   b) inculcating in students the reality that basic existence depends upon the finite resources of earth: land, water, air, plants, animals, and minerals, plus the sun;

   c) providing specific basic knowledge of the world's natural resources, operational processes and cycles, renewability or non-renewability, AND a perspective of man's responsibility to wisely use and preserve resources for future generations;

d) correlating issues of social, economic, and political factors with potential solutions of environmental problems.

2. Help establish a total support system for lifelong, interdisciplinary environmental education, including:

a) all levels of educational administration;

b) boards of education;

c) local, state, and national legislative bodies;

d) local, state, and national governmental agencies;

e) labor, business, and industry;

f) private and professional organizations;

g) local community groups and individuals;

h) students and parents, as consumers of education; and

i) all media and communications systems.

3. Evolve a society willing to live according to the fundamental laws of ecology.

Strategies

1. The Alliance for Environmental Education should contact target organizations such as Association for Supervision and Curriculum Development, American Association of School Administrators, National Council for the Social Studies, Music Educators National Conference, National Science Teachers Association, National Council of Teachers of English, and other associations of professional educators to:

a) request opportunity to discuss ways and means of implementing the recommendations of this conference at all major meetings and conferences,

b) request similar opportunity at regional conferences, and

c) request opportunity for Alliance members and Snowmass Conference participants to serve as resource personnel at inservice workshops.

2. Member organizations of the Alliance for Environmental Education should place the findings and recommendations of this conference on the agendas of their own meetings, for consideration of endorsement and action.

3. Conference findings and recommendations should be transmitted to the American Association of Textbook Publishers, the American Library Association, and similar organizations, with the suggestion that Snowmass Conference participants serve as reactors to curriculum materials in preparation and books being selected.

4. Publishers of environmental education materials should fund inservice workshops for teachers.

5. Textbook promotional brochures should quote excerpts from Snowmass conference findings and recommendations.

6. The Alliance for Environmental Education should publish listings of resource personnel for every state capable of conducting inservice workshops.

7. Business, industry and labor should be approached to interact with environmental educators for environmental education funding, for mass media spots and programs, for inservice workshops, for curriculum development projects, for scholarships, and to provide technical resource assistance.

8. Organizations such as the National Geographic Society and National Audubon should be requested to cooperate in planning and producing a national television "special" based upon the deliberations of the Snowmass Conference.

9. Educational Testing Service and similar organizations should be requested to develop evaluative instruments for environmental literacy and values and incorporate them into testing batteries.

10. ESEA, Title I coordinators and members of monitoring and review teams should be contacted to enlist their support in incorporating the findings and recommendations of the Snowmass Conference into programs of basic skills development and multicultural curriculum development.

11. Media personalities and program directors of broadcasting networks should be contacted to enlist their cooperation and support in publicizing the findings and recommendations of the Snowmass Conference.

12. Major periodicals and print media should be requested to report the findings and recommendations of the Snowmass Conference.

13. The Alliance for Environmental Education should request the Republican and Democratic National Committees to include environmental education platform planks in their 1976 platforms, based on the findings and recommendations of the Snowmass Conference.

14. Non-public schools and school systems should be contacted, requesting endorsement and implementation of Snowmass Conference findings and recommendations.

15. Editors of state education journals should be contacted, requesting coverage of environmental education.

16. The Center for War/Peace Studies, the World Without War Council, the American Friends Service Committee, and other similar organizations should be contacted, requesting endorsement and publication of the findings and recommendations of the Snowmass Conference.

17. Endorsement of conference findings and recommendations should be sought from friends of environmental education, including (but not limited to) Congressman John Brademas, Barry Commoner, Jacques Cousteau, Justice William O. Douglas, Rene Dubos, Paul Ehrlich, Senator Henry Jackson, Margaret Mead, Ralp Nader, Senator Gaylord Nelson, Alvin Toffler, Russell Train and Beatrice Willard.

18. Snowmass Conference staff should provide ongoing feedback and recommendations of "next steps" to workshop participants.

19. Support should be solicited from civic and private organizations.

20. Support, endorsement, and implementation of Snowmass Conference findings and recommendations should be solicited from ethnic, women's, and religious groups and coalitions.

Group Report: HIGHER EDUCATION

Participants: Russell M. Agne, Edward J. Ambry, Craig C. Chase, David L. Hanselman, Robert S. Hullinghorst, R. J. Nash, Eugene Sandy Parker, Esther P. Railton (chr), Clarence A. Schoenfeld.

Four major areas of concern with respect to environmental education in postsecondary education were identified: resident instruction, research, outreach, and the roles of institutions of higher education as societal members.

Status: Resident Instruction

In the resident instruction of graduate and undergraduate students other than those preparing for environment-related professional careers, most of the shifts toward strengthening the environmental content of courses have been, and continue to be, the results of student and faculty interests and pressures. This shift toward environmental education is one of the most dramatic changes in higher education in this country.

The largest portion of this new educational content is embodied in existing courses which have been modified or expanded. Very few new interdisciplinary majors (i.e., environmental studies drawing from humanities, political science, economics, the sciences, etc.) have been introduced. Some of the new majors in environmental areas are seen as old wine in new bottles, as many departments have changed their names and some course designations without concomitant modification of curricula. On the other hand, some new majors are exciting experiments in ecological approaches to the liberal arts.

In the professional disciplines, many of the changes have also been through the adoption of new emphases in existing courses. In some cases, new courses have been developed. Teacher education curricula and programs have changed very little externally, with the notable exceptions of a few institutions which have offered environmental education course sequences at the masters' level, plus a few others which have adopted professional masters' programs for environmental education specialists.

Career opportunities for students specializing in environmental studies or environmental education are currently limited; persons possessing such majors may have serious problems finding employment in the present job market and under present entrance standards,

unless they also have some other professional degree or credential--forestry or curriculum development, for examples. The nation's economy is a major factor in this picture; the situation may change. Further, too few students of environmental education have opportunity for field study or internships. This effectively prevents them from testing their education in the field and from gaining exposure to potential employers. However, those institutions which do provide opportunity for their students to test their academic learnings and career orientations appear to be providing a more adequate preparation for employment and successful careers.

Status: Research

For all practical purposes, little research exists or is known to be planned in environmental education--in learning theory, behavior change, curriculum design, and the like. This group endorses university programs that do stress environmental education research.

Status: Outreach

Much of the outreach function in environmental education is fulfilled through extension education or through community colleges; only a few four-year and graduate institutions provide such services. This is true of courses for professionals, in-service training, and community research and services. The education of environmental technicians has especially been left to the two-year colleges. Use of students for outreach has been modest, but the four-year and graduate environmental science programs have been expanding these opportunities for service and education.

Status: Institutional Role Definition

Mission definitions for most institutions of higher education have not been extensively revised for many years; they generally are not in tune with the times, as far as commitment to service in the interest of the environment. University institutions generally have not been planned to be particularly compatible with the environment. Facilities are not structured to conserve energy and materials.

Furthermore, many academic professors of environmental education are outside the regular reward structures within their own institutions. Unless such a professor is tenured, his position is often quite insecure in light of present academic retrenchment.

Goal

The overreaching goal for higher education at this time should be to incorporate a strong emphasis on concern for the environment, using all resources available in each institution. This goal calls

for a re-examination of program offerings and an assessment of final commitment to this end.

Recommendations

1. All institutions of higher education should include in their general education programs broad opportunities for students to have interdisciplinary experiences concerned with environmental issues, problems, and systems, in order to produce environmentally literate citizens.

2. Professional undergraduate and graduate programs of study should incorporate methods of instruction and materials which provide students a total systems orientation to environmental issues and problems, and their potential solutions, through specialized preparation. Programs designed for the preparation of professional educators should require, in addition, a sound knowledge of one or more related disciplines, such as economics, political science, environmental biology, psychology, etc.

3. Environmental education research efforts should focus on behavioral change of students, teachers, and the general public. Assuming a fair level of awareness, process research should be concentrated on changes required to move from awareness to participation. Environmental education should draw upon the variety of disciplines available throughout the structure of higher education institutions. A national consortium of environmental education researchers should be asked to prioritize needs and set criteria and strategies.

4. Higher education institutions should design course programs and workshops which will allow participants to capitalize on their individual academic and experience backgrounds so that they will be better prepared to cope with environmental concerns. Commercial radio and television media should be used in the production and instruction of these course programs.

5. During this latter part of the twentieth century, all post-secondary institutions should re-evaluate their mission statements to assure that policy pronouncements and program activities include a strong commitment to public service and concern for the environment.

Strategies

1. Environmental education faculties should initiate regional bull sessions in connection with associates.

2. Institutions must facilitate faculty exchanges so that each university or college, and instructor involved, may learn

from others. Visiting professors bring new ideas, processes, and information. In addition to teaching, the exchange professors might attend classes and visit environmental programs. Returning, this professor will bring fresh organizational patterns and information. Meanwhile, the other exchange professor will be making similar contributions but supplying a different specialization.

3. Environmental education faculty should appeal to colleagues through their professional societies, such as American Council on Education, National Science Teachers Association, etc.

4. The American Association for Higher Education should discuss university goals.

5. Faculty senates, associations, and unions should reassess goals.

6. Colleges should provide field studies and internships to acquaint learners with real problems.

7. College faculties should assist and encourage teachers to use action-oriented approaches to environmental education.

8. An association should be established to further identify employment markets and communicate with educators.

9. American Education and Research Association and related research societies should include environmental education on their agenda.

10. Community colleges and universities should design and offer environmental education classes and television programs which appeal to inner city industrial workers.

11. Environmentalists should work through various business associations to encourage professional schools to adopt environmental components. For example, professors can provide applicable specialized training, but in the course, include a wider spectrum of realistic information that deals with issues and decisions about environmental needs.

12. Each state should include in its master plan for environmental education inservice training for teachers in environmental education and environmental action.

13. Universities should sponsor workshops with business, government, and environmental organizations on environmental education resources and information dissemination.

Group Report: FEDERAL GOVERNMENT AGENCIES

Participants: Alexander J. Barton, Donald D. Duggan, William L. Featherstone, Walter E. Jeske (chr), Fil Jiminez, Edward B. Larsh, Conley L. Moffett, John R. Paulk, David Phillips, George L. B. Pratt, Jim Unterwegner.

Though the missions and mandates of the various Federal Government agencies are broadly diverse, there are at least five aspects of environmental education that command wide attention within the Federal Government:

1. It is a vital public issue:

Attainment and maintenance of a generally acceptable level of environmental quality are essential to the physical, mental, social and economic welfare of our Nation and its people. Promotion of the "general welfare" and the "pursuit of happiness" would be empty phrases in an environment so degraded as to make well-being and happiness unattainable goals. Human populations, commerce and industry, energy, materials and their by-products, and technology must be managed according to rational plans if citizens are to live "in productive harmony" with their environment in an increasingly complex and interdependent world.

2. It is an obligation:

There is a clear responsibility, especially in a democracy, for citizen leaders and decision makers at the local, state and national levels to base their decisions on reliable information about the entire range of available alternatives and the likely consequences of their decisions. No less important, every citizen should be provided the information needed to make responsible decisions at personal, community, and national levels. The people have a right to expect their government to assist in making available the basic inputs needed for this decision-making process. The failure of government to detect and counter processes that poison air, pollute waters, ravage forests, damage soils, or squander mineral and energy resources could well prove to be a dereliction as great as failure to meet the threat of a foreign aggressor or of a serious socio-economic malady.

3. It is an opportunity to serve a widespread public demand:

In recent years the public has exhibited great responsiveness to issues concerning the quality of the environment in which they and

their descendants are to live their lives. This sensitivity constitutes an emotional and intellectual climate in which information germane to environmental problems is in widespread demand, even though it deals with such hard matters as specific complex issues, competing benefits, and a range of alternatives that must be evaluated. The views of environmentalists, industry, government agencies, and informed citizens must be considered if a balanced perspective is to be developed.

Many citizens find constructive avocations in analyzing environmental questions, per se, or as adjuncts to such recreational interests as hunting, fishing, camping and hiking. These avocational aspects of environmental education should be recognized and encouraged, for they represent an allocation of discretionary time, talent and financial resources. Such volunteer participation could be a pervasive force in stimulating and helping to direct action programs.

4. It is a potentially integrative force in our national life:

Few issues afford wider appeal to disparate elements of the American society. The rich and the poor of all races, the young and the old, the rural and the urban dwellers, the manager and the employee, all stand to gain or lose valuable benefits depending on the nation's success in dealing with the problems of environmental management. Widespread understanding of this fact provides a platform on which people can communicate with one another and work unitedly toward attainable goals. The success of such an effort might do much to ameliorate the sense of helplessness and frustration that grips so many people as they face the vast and difficult issues of the latter twentieth century. Youth, particularly, find in environmental concerns specific problems to which they can make constructive contributions and upon which their views are accorded a respectful hearing.

5. It is an issue demanding immediate attention:

An informed electorate may chose to act now to abate and control environmental decay or to defer the application of effective remedies, but these choices should be made in the full knowledge that some environmental losses may soon become irreversible and that the costs of recovering others will escalate rapidly through time.

The following excerpts from the Federal law provide a basis for the development of Federal (as contrasted to agency) policies and strategy for coping with the foregoing aspects of environmental education:

Public Law 91-190 - The National Environmental Policy Act of 1969

Sec. 101. (a). The Congress . . . declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practical means and measures,

including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans. (The world is included in further sections).

Public Law 91-516 as amended by P.L. 93-278 - The Environmental Education Act

Sec 2. (b). It is the purpose of this Act to encourage and support the development of new and improved curricula . . .; to demonstrate the use of such curricula . . .; to provide support for the initiation and maintenance of programs in environmental education at the elementary and secondary levels; to disseminate curricular materials and other information . . .; to provide training programs for teachers, other educational personnel, public service personnel, and community, labor, and industrial and business leaders and employees, and government employees at state, Federal, and local levels; to provide for the planning of outdoor ecological study centers; to provide for community education programs . . .; and to provide for the preparation and distribution of materials by mass media in dealing with the environment and ecology. (Emphasis added).

Sec. 4. The Secretary of Health, Education, and Welfare, in cooperation with the heads of other agencies with relevant jurisdiction, shall, insofar as practicable, upon request render technical assistance to local educational agencies, public and private nonprofit organizations, institutions of higher education, agencies of local, state and Federal governments and other agencies deemed by the Secretary to play a role in preserving and enhancing environmental quality and maintaining ecological balance while giving due consideration to the economic considerations related thereto. The technical assistance shall be designed to enable the recipient agency to carry on educational programs which are related to environmental quality and ecological balance.

As can be seen in these excerpts, the legislative intent is clear. But the environmental issues confronting us are complicated and require new institutional arrangements, new applications of problem-solving techniques, and fresh interagency coordination and cooperation. Legislation is a necessary step only if voluntary self-control has not accomplished the adjustments, but is only the basis and not a substitute for other actions. To a large extent, the questions asked should be derived from answers that advance agency missions. Environmental education is not an end in itself.

There are wide variations in environmental education programs conducted by agencies of the Federal government. This is the case, largely, because each agency operates under specific authorizing legislation that describes its purpose and details its functions. For the most part, the primary mission of an agency governs the substance of environmental education efforts that it undertakes.

Priorities for environmental education usually are at the discretion of the particular agency. Often environmental education is considered to be the responsibility of the public affairs branch of the agency. As a result, content is sometimes diluted.

Among the reasons for an agency to support environmental education are:

1. to foster rational behavior in relation to the environment;

2. to inform the public of the complexity of environmental issues and involve them in the search for comprehensive solutions;

3. *to enrich an individual's basic education and living* experiences;

4. to encourage preparation for environmental jobs and careers;

5. to assist in furthering the mission of the agency.

A study conducted by the Council on Environmental Quality in 1972 indicates that Federal assistance programs provided approximately $24 million in support to a broad range of environmental education activities during fiscal year 1972. The Office of Education accounted for over $14 million of the total, providing about $9 million through the research and development provisions of the Elementary and Secondary Education Act (ESEA, Title III). Other agencies spending a million or more were the National Science Foundation, the Environmental Protection Agency and the Departments of Interior and Agriculture.

The Federal Interagency Committee on Education (FICE) is presently working to develop effective interagency cooperation on environmental education. FICE was established by presidential executive order in 1964 to facilitate coordination of education activities of Federal agencies. Its mandate was updated and reaffirmed by Executive Order 11761 of January 17, 1974. FICE advises the HEW Secretary and Assistant Secretary for Education on their responsibilities under Executive Order 11761. Under the order, the Secretary, with the assistance of the Assistant Secretary, identifies the nation's educational needs and goals and recommends to the President policies promoting the progress of education. (For additional information about the current efforts of FICE, see Appendix D).

Group Report: STATE AGENCIES

Participants: Kerry Baldwin, Shaw Blankenship, Meyer S. Bogost, John Dority, George A. Ek Jr., H. Wells French, Jim R. Gonzales, Ethel J. Hackney, Cliff Hamilton, Michael Harned, Richard Hess, Russ Hupe, David Kennedy (chr), Mary Lewis, John C. Miller, Harry Mills, Jack O'Leary, Richard S. Peterson, Patsy S. Saiki, C. Richard Tilis, Joe Vogler.

Status of Environmental Education Within and Outside of Departments of Education

The environmental education movement arose from the early conservation education programs of public and private natural resource organizations. Concern over natural resource misuse stimulated those early programs. Departments of education have been traditionally slower to respond to public concern, though several states had, early on, provisions requiring conservation education.

As the need for environmental education became suddenly apparent, and as greater depth of knowledge and more concise specialization became necessary, state and federal agencies, as well as private entities, established their own conservation and environmental education units. This growth, concurrent with need for specialization and more effective emphasis--often in areas never considered in conservation education--was concomitant with public discovery of the complexities of environmental interrelationships.

During the educational peak of the 1960's, public departments of education slowly began to accept a conservation/environmental education responsibility. The educational expertise they brought to this activity soon bypassed the capabilities of many resource groups. But the inflexibility of public education has brought environmental education to legitimacy only after the "bandwagon" days of environmental concern had passed.

The current challenge for the environmental educator is to develop programs essential to the survival of civilization at a time when environmental issues have lost their bandwagon appeal, and are at best publicly perceived as being politically equal with other concerns.

Among the factors making this task more difficult are:

1. the loss of the World War II "baby crop" to the job market;

2. geographic shifting of populations nationally;

3. decreasing birth rates;

4. disinterest by decision makers, once their own children have been educated;

5. general discontent with established educational structures; and

6. public and legislative disillusionment with education, brought about by:

   a) rising property taxes;

   b) upheavals of the 1960's, often attributed to schools and culminated by student unrest and riots; and

   c) teacher militancy and strikes.

The close link between education and foreign policy--military objectives--perhaps deserves stronger emphasis than the other factors. It was because of Sputnik that the National Defense Education Act was passed. This not only serviced NASA needs, but set into motion a "dominoes effect" resulting in other educational legislation, some of which had no discernible military connection (e.g., the Elementary and Secondary Education Act of 1965). Once man walked on the moon, the educational "heyday" was over.

The future for environmental programs within departments of public instruction is dependent on the ability of pressures outside educational institutions to influence change. The fact remains that financial uncertainty causes increasingly adverse impacts on programs and personnel.

Although changes in funding for public education may occur, such as movements away from property taxing to more equitable funding, educational funds will still go to those programs which evidence the greatest amount of public support.

Goals

1. Each state should fund, develop, adopt, and implement a comprehensive plan for environmental education, designed to meet the needs of all phases of formal and non-formal education.

2. State agencies should assert and demonstrate leadership in environmental education through:

   a) visible commitment;

   b) participation in a communications network which provides for articulation, dissemination, implementation and evaluation of environmental efforts;

c) increased cooperation with their legislatures; and

d) participation in interagency cooperation.

3. All states should have environmental education advisory committees, with representation from the Governor's office, state agencies and federal agencies, volunteer organizations (including community groups), private agencies, business, labor, and industry, higher education, elementary and secondary education, students at various levels, and minority groups, to:

a) review planning procedures currently in existence within the state;

b) review existing environmental education state plans within the state, and in other states, and develop appropriate plans;

c) develop strategies for implementing the completed state plan; and

d) review, evaluate, and update the plan on an annual basis.

Strategies for Implementation

1. Relative to leadership in environmental education by state resource management agencies: Each agency and organization should designate two persons responsible for providing leadership in environmental education. In order to provide the personal contact and competencies necessary to satisfy this goal and to meet the needs of communities, it is essential that personnel involved be capable and skilled in process-oriented methodologies. It is desirable that a careful procedure of identification of existing personnel, identification and selection of new personnel, and a continuous educational program for all personnel, be established.

2. Relative to the funding, development, adoption and implementation of state plans for environmental education: Each agency and organization should identify its niche in the total plan, formulate an action plan for implementation of its components, and review, evaluate, and update this action plan on an annual basis.

3. Relative to formation and activities of advisory councils for environmental education: Members of the advisory council should be key decision makers committed to environmental education through agency or organization support. The council should study the development and implementation of state plans for environmental education in other states, seeking to learn by the experiences, positive and negative, of others.

4. Relative to the formation and activities of the state action committee: This is, in effect, an operational committee, and should carry out the state plan as developed by the advisory council. Thus, it should work closely with that council, but on implementation phases rather than theoretical aspects. Each participating agency should identify its own niche in the total plan. It is, of course, essential that agency staff assigned to the action committee will know the operation of the agency, including funding patterns. The action committee should organize regional action committees in logical geographical and/or urban areas; each area should also be represented on the state action committee. In order to provide the personal contact and competencies necessary to satisfy these goals and to meet the needs of each community, it is essential that personnel involved be capable and skilled in process-oriented methodologies. It is also essential that assignment to the action committee be considered a significant portion of the individual's job description and work load. It is desirable that a careful procedure of identification of existing personnel, identification and selection of new personnel, and a continuous education for all agency personnel be established.

ADVISORY BOARD

State Agencies | Labor, Industry and Business | Federal Agencies | Voluntary Agencies | K-12 Education | Higher Education | Students | Other

STATE ACTION (STEERING) COMMITTEE

REGIONAL (or DISTRICT, or COUNTY) ACTION (STEERING) COMMITTEES

Action Committees are responsible for:

I. Review
II. Development
IIII. Implementation
IV. Evaluation

of STATE PLAN

The State Planning and Implementation Process, as Recommended by the "State Agencies" Group

Group Report: LABOR, INDUSTRY, AND BUSINESS

Participants: Anne E. Impellizzeri, Gerry W. Kelly, Joan E. Martin, June McSwain (chr), John Yolton.

Status

At present, environmental education in labor, industry and business ranges from no action, through propaganda, to sound education. It generally lacks credibility, in part deserved. Environmental education in labor, industry and business suffers from a stereotyping from within and without, yet benefits from specific built-in expertise such as experience-based understanding of decision-making processes, trade-offs, technological advances and consequences, and the like. Much of labor, industry and business has a strong sense of social responsibility, but it has not necessarily expressed this responsibility in environmental education efforts. Labor, industry and business include a full cross-section of the adult population, but have insufficiently directed environmental education to their own employees and workers. Labor, industry and business often recognize the value of reaching young people, but have seldom developed adequate working relationships with formal education, pre-school through higher education.

Goals

Labor, industry and business should recognize that participation in environmental education is a desirable and necessary expression of social responsibility and is integral to their enlightened self-interest. The following goals will serve to suggest appropriate modes of such participation:

1. To continue to provide educationally sound services for environmental education by:

    a) maintaining high standards, by:

        (1) involving professional educators in the planning, development and implementation of services;

        (2) providing balanced, objective services and data rather than propaganda;

        (3) constantly evaluating services provided in terms of:

            (a) credibility;

(b) meeting sound educational standards; and

(c) effectiveness, other than number of materials distributed; and

(4) considering in environmental education the many facets of environmental problems (economy, ecology, politics, law and regulation, health and safety, quality of life, social implications, and the like) from the personal to the global perspective;

b) providing a variety of services, such as

(1) educational materials (print, audio-visual, multi-media) and related in-service training, to help teachers use materials effectively;

(2) first-hand experience at labor, industry and business facilities;

(3) well-informed resource persons as speakers and consultants;

(4) career education;

(5) internships;

(6) case studies and simulations; and

(7) funds, when possible;

c) contributing to environmental education in areas of labor, industry and business expertise:

(1) operations of labor, industry and business;

(2) knowledge of decision-making processes;

(3) knowledge of the economic system;

(4) explanation for possible trade-offs and rationales in decision making;

(5) technological advances and their environmental and economic impacts;

(6) production, distribution and marketing systems; and

(7) research data.

2. To develop cooperative relationships at the national, state and local levels between labor, industry and business and formal education institutions and personnel, preschool through higher education, by:

a) seeking professional educational expertise in the development of sound services for environmental education (elaborated under #1 of the Labor, Industry and Business section of this report);

b) combining talents to reach environmental education goals;

c) developing mutual understanding and recognition of diversity beyond stereotypes and images;

d) communicating what labor, industry and business have to offer in sound educational services and expertise; and

e) developing a national system for the sharing of environmental education resources.

3. To provide environmental education leadership and direction for reaching the community, especially adults where they work, live, meet and play, by:

a) relating environmental education to the self-interests of the target groups, including concerns about jobs, prices, cost of conveniences, life style change, supply and rates of energy resources, housing, transportation, food, land use, health and safety, urban problems, and well-being of children and families;

b) strengthening internal environmental education for all workers and employees;

c) improving internal communication and education between educational services and other divisions and programs such as advertising, investments, research and development, manufacturing and distribution, personnel and so forth; and

d) promoting recognition that there is diversity among interest groups - environmentalists are not all alike, community activists are not all alike, persons involved in labor, industry and business are not all alike.

Strategies for Implementation of Goals

With respect to goal 1:

1. Develop and utilize diversified advisory committees, seeking advice from United States Office of Education, state departments of education, school administrators, classroom teachers and students, professional organizations such as the Alliance for Environmental Education and others, representatives of community self-interests, resource management

agencies, private conservation organizations, and other appropriate audiences.

2. Seek and cross-check information and data from outside sources representing varied viewpoints.

3. Make needs assessments to avoid duplication and to reach the self-interests of target groups.

4. Recognize the variety of audiences, in terms of age levels, geographic areas, socio-economic levels, and urban-suburban-rural orientation.

5. Develop evaluative processes to determine the effectiveness of services.

6. In reference to funding, use internal and external education and environmental resources to establish appropriate criteria and avoid duplication of funding.

With respect to goal 2:

1. Work with higher education to contribute to the curricula of professional schools--environmental education, law, business, engineering and so forth--by providing information on environmental impact, cost/benefit analyses and other areas of labor, industry and business expertise.

2. Work with vocational-technical schools and community colleges to provide curriculum input.

3. Work with preschool through secondary school to provide appropriate curriculum input, including teacher training and parent education.

4. Participate in national, state and local meetings related to environmental education in order to contribute labor, industry and business services and expertise, as well as to benefit from the thinking of other participants.

5. Provide information to educational organizations and journals in reference to labor, industry and business services and expertise.

6. Coordinate existing clearinghouse systems for sharing environmental education resources more effectively.

With respect to goal 3A, and B:

1. Assess needs and self-interest of adults in the community to determine program focus.

2. Build on existing educational processes ranging from individual influence to diverse organized groups.

3. Work with community colleges, continuing education, vo-tech, and private conservation organizations to develop and implement programs.

4. Build in mechanisms for continuation by involving the community.

With respect to goal 3C:

1. Assess needs and self interest of labor, industry and business staff to determine program focus.

2. Build on existing educational processes ranging from individual influence to training programs and executive retreats.

3. Capitalize on individual self-interest distinct from vocational interests and responsibilities.

With respect to goal 3D:

1. Provide community workshops for opening up and maintaining dialogue among labor, industry and business, private conservation organizations, environmental educators, government agencies, and community interest to insure some input in decisions of each participant group.

Strategies for Dissemination of Snowmass Conference Report

The labor, industry and business interest group suggests, in addition to the regular distribution of the goals, findings and recommendations of this conference, that:

1. goals, findings and recommendations relative to labor, industry and business be isolated, then mailed with appropriate cover letter to chambers of commerce, trade associations and their individual members where appropriate, national and international unions, the Public Relations Society of America, and selected companies; the cover letter will request feed back to the mailing, including naming of an appropriate individual designated for follow-up contact;

2. the labor, industry and business group identify indivuduals and organizations outside labor, industry and business who can work with and influence labor, industry and business in the implementation of goals and recommendations.

3. If an on-going implementation group is set up to continue the work of the Snowmass Conference, members of the labor, industry and business interest group offer to participate in its efforts.

4. A coordinating group be established to follow-up on the Snowmass Conference goals and recommendations which would include all participating interest groups. To this end,

we ask the Alliance for Environmental Education to consider a change in by-laws, if possible and necessary, to incorporate all interest groups at Snowmass in the Alliance and, therefore, assure follow-through on the goals and recommendations of the conference.

Group Report: PRIVATE ENVIRONMENTAL ORGANIZATIONS

Participants: Gordon Buchmann, Robert S. Cook, Susan Flader, John A. Gustafson, William Mayo, Maria Painter, Charles E. Roth (chr), John C. Stone.

Private associations engaged in environmental education include several small societies whose main thrusts are some aspect of environmental education and several much larger organizations representing a wide variety of environmental interests carrying out environmental education activities as one component of their operations. Many of these organizations have long histories of environmental education activity, under a variety of other names, giving them a body of traditional and distinctive points of view.

Over the years there have been several attempts to coordinate, in some cases to organically merge, these associations. The formation in 1973 of the Alliance for Environmental Education was an attempt to bring national and regional organizations together in a loose coalition to foster cooperative ventures, coordinate activities, make more efficient use of resources, improve communications, and give a more unified voice to environmental education in the formulation of public policy.

Private societies carry on a wide spectrum of environmental education activities, including:

1. publication of periodical journals and newsletters;
2. publication of environmental education materials for teachers and others;
3. operation of workshops, symposia and field experiences;
4. acquisition of, or assistance in the acquisition of, facilities for environmental education;
5. operation of environmental education centers;
6. operation of youth programs;
7. operation of training programs for teachers and others;
8. participation in consulting and contractual projects;
9. establishment of standards and criteria for environmental education professional personnel and activities;

10. participation in joint special projects;

11. participation in the Alliance for Environmental Education;

12. evaluation of environmental education programs and materials.

These activities are carried out with varrying degrees of effectiveness, sometimes sporadically. Leadership in those organizations whth volunteer staffs often lacks expertise and consistency. Commitment to environmental education may wax and wane. Financial stability is a severe or, at best, moderate problem in most; over the long run, probably for all. Individual members, and even leaders, are often shared by several societies, so that aggregate membership totals do not reflect an accurate national commitment to environmental education.

Statement of Purpose

Private environmental education organizations have the resposibility of giving the movement a "cutting edge" by being innovative; by being critical of what is being done; by examining, evaluating, and even exposing, unpopular, radical, or far-out ideas; by probing, prodding, and proposing alternatives; by attempting new modes of planning and execution. These organizations are integral and essential components of the total environmental education system. They possess and need freedom to express and advocate their particular interests and strength, thus providing a vital stabilizing diversity to the movement. But they also need to coordinate their activities through adequate communications and cooperate in ways which will enhance their individual roles and the cause of environmental education in general. Such organizations should serve, both individually and collectively, as the conscience and imagination of the environmental education movement.

Current Goals of Private Environmental Associations

1. To continually expand and reinforce the public's understandings of environmental systems, increasing public understanding of the importance of such systems in their lives;

2. to provide an outlet for individual and group volunteer activity to improve environmental conditions;

3. to act as informed monitors of government and industry in the implementation of environmental legislation and regulations, to conform with both the spirit and the letter of the law;

4. to serve as an early warning system to identify potential environmental problems and alert the public and appropriate officials to the potential dangers in continuing in present fashion;

5. to provide opportunities, recreationally and/or professionally, which will lead members and non-members to develop higher levels of environmental awareness, understanding, concern and action;

6. to act as ideological condensation points for various environmental attitudes, values and work views;

7. to provide training and re-training experiences for preservice and inservice teachers in environmental education.

Goals Suggested for Private Environmental Associations

1. To help individuals in the various publics, including schools, develop processes of thinking by which they may understand environmental problems and clarify their own values; the organizations should express their concerns and positions in terms of the relevant ecological and socioeconomic systems, with explorations of alternatives and implications.

   Strategies:

   a) Develop tested methods of achieving goals;

   b) arrange workshops with specialists, business leaders and others to study systems approaches as related to environmental issues;

   c) emphasize in promotional and position materials the importance of considering alternatives in arriving at positions;

   d) develop special materials on systems thought processes for use in workshops;

   e) involve people from diverse backgrounds in workshops on environmental issues;

   f) establish means of reaching physically and socially isolated segments of appropriate audiences;

   g) explain how and why positions have been reached on issues, identifying elements in situations which are variable and subject to doubt;

   h) serve as an early warning system on environmental issues;

   i) offer pilot programs and support parent-oriented community education courses and programs.

2. To develop methods by which members of the organizations may grow in their levels of environmental understanding and action.

Strategies:

a) Encourage members to initiate local projects, research their larger ramifications, and develop materials for and conduct leadership training sessions;

b) encourage members to initiate roundtables with other environmental, business and government leaders;

c) assist local members in working on aspects of local environmental problems.

3. To increase cooperation with other groups around identified common goals to create synergistic action.

Strategies:

a) inventory existing material resources;

b) prepare inventories of each organization's prime environmental concerns;

c) actively solicit involvement of the business community in each organization's program;

d) arrange for organizational input for each issue identified by the Alliance for Environmental Education;

e) hold forum-type meetings of the Alliance for Environmental Education, nationally and regionally;

f) seek to establish, as organizational goals, one or more cooperative projects;

g) encourage membership in the Alliance for Environmental Education; new member organizations should be actively recruited;

h) seek interaction with business and industry.

Group Report: COMMUNICATION AND DISSEMINATION

Participants: Walter Blackford, Kay Collins, John F. Disinger, William J. Kardash (chr), Clarence A. Schoenfeld, Barbara Swaczy, Ilene Wright.

Though the term "environmental education" is vague, amorphous, and currently undefined, environmental education is now recognized as a field; it is being identified as a professional field as well as an interest area. As a result, the volume and types of communication relative to environmental education are rapidly expanding.

The Communication/Dissemination interest group decided to accept the terms "communication" and "dissemination" as an expression of the common interests of its members, and not to labor over the semantic differences between them.

Two primary concerns were chosen as focal points:

1. Communication among professional environmental educators, here defined as "persons active in environmental education," and dissemination of information within the environmental education profession. This area is defined as "internal communication/dissemination."

2. Outreach to individuals and groups "outside" of the environmental education profession, which area is defined as "external communication/dissemination."

This differentiation was made to clarify group discussions. These definitions are not intended to indicate sharp boundaries, but to represent points somewhere near the opposite ends of a continuum.

As assessed by members of this interest group, the paramount issue of communication/dissemination in environmental education is "internal". Improving communication and dissemination within the profession will strengthen "external" communication and dissemination, while the reverse would not necessarily strengthen or improve the quality of communication and dissemination within the environmental education profession.

Existing Communication/Dissemination Channels

1. Personal: One of the most effective, and most used, personal channels is word-of-mouth communication, in person or by telephone. Conferences, seminars, workwhops, symposia, association meetings, and less formal gatherings all assist in this process.

2. Publications:

   a) Specific to environmental education - Environmental Education Report, Journal of Environmental Education, publications of private conservation associations, textbooks; miscellaneous classroom aids, games, and the like;

   b) general environmental publications, such as Environment, Environmental Science and Technology, Environmental Action, Audubon, Biological Conservation, Environmental Action Bulletin, National Wildlife, and many others;

   c) published indexes to help access information, such as Environmental Abstracts, Public Affairs Information Service, Education Index, Resources in Education, Current Index to Journals in Education, Monthly Catalog of the United States Government Printing Office, and others;

   d) institutions, such as libraries, school media centers, state departments of education, government agencies, colleges and universities, and others. Some libraries, such as the Denver Public Library, have conservation libraries which are particularly helpful.

3. Non-print sources: Access to such sources is sometimes difficult. If local libraries and private distribution centers do not have local film outlets, catalogs are often helpful, such as Environmental Film Review and any number of commercial catalogs.

4. Mass media: A growing number of newspapers have environmental reporters. Organizations are using video tape as an inexpensive method of developing spot announcements, as well as lengthier educational programming for television use. Community issues may be communicated through public television, commercial radio and television, and newspapers, as well as through organizational and professional journals.

Goals

1. An efficient interest group should be organized which will be better able to influence public and private policy as it relates to environmental education.

2. Existing communications channels should be utilized and integrated, to their fullest potential, for the purpose of advancing environmental education.

3. Education for changes in values and attitudes requires personal commitment on the part of educators. Environmental educators should be willing to endorse their beliefs

by practicing them openly. Only in this way can environmental education reach a level of believability.

4. The quality of communications among environmental educators should be improved.

5. Balanced coverage of environmental information in the mass media should be encouraged.

6. Sources of funding for the production and dissemination of print and non-print environmental education materials should be identified.

Strategies for Implementation of Goals

1. Develop the Alliance for Environmental Education to represent the interests of environmental education to legislatures, government agencies, business and industry.

2. Establish state-level organizations patterned after the Alliance for Environmental Education.

3. More fully develop and utilize "brokers" of quality information, such as libraries and clearinghouses of information for the environmental education profession; expand ERIC and/or other systems to include non-print media, perhaps in the form of film reviews, bibliographies and sources.

4. Foster cooperation with government agencies to promote the exchange of information relating to publicly funded environmental education efforts; for example, federal agencies could, as a matter of course, provide abstracts or summaries to state departments of education, information centers such as ERIC, and/or other dissemination outlets.

5. Use community and academic resources as integral parts of environmental education programs; frequently civic groups, community colleges, universities, and so forth can and will provide services and funds.

6. Develop preservice and inservice communications programs for environmental educators to increase their competencies in these areas.

7. Promote interpersonal exchanges with community change agents such as media people, lawyers, planners, resource managers, teachers, librarians and government officials.

8. Be aware of the realities of trade-offs of economic, cultural, social and environmental systems in specific projects.

9. Assist the mass media in understanding and communicating environmental and related impacts of existing or proposed activities.

10. Develop and disseminate case studies of the successes and failures of specific environmental issues.

11. Request support from public television and radio, regional and national educational networks, and commercial television and radio, which are required to provide public service time.

12. Seek the sponsorship of civic and community organizations, government agencies, private companies, foundations and trade associations in developing communication/dissemination channels; it is best to seek their support before development of materials so as to avoid potential philosophical conflicts.

KEYNOTE PANEL

Keynote #1: NATIONAL ENVIRONMENTAL EDUCATION PERSPECTIVES

Clay A. Schoenfeld, Professor
Center for Environmental Communications and Education Studies
University of Wisconsin—Madison

According to Malcolm Swan in the new compendium, What Makes Education Environmental?, the first use of the term "environmental education" in a national journal occurred in the September, 1968 issue of Education Record as the title of an article on "Environmental Education and the University."

Since I was the author of that article, and since it was based on a University of Wisconsin working paper which I happened to draft in September, 1966, I can claim to be a 10-year veteran of the environmental education wars.

I cite these data not to establish my status as a seer but rather to document the fact that I have been making some crucial errors longer than most people, although I have come to have a lot of company.

My role this morning shall be to propose three of our fundamental errors in national, environmental education strategy. Not that we have not also been correct at times. We have. But I suggest we can best move on from here by recognizing some of our mistakes and reckoning new azimuths.

In a nutshell, I submit many of us in environmental education have systematically ignored or discounted Barry Commoner's three basic laws of ecology, to the detriment of our plans and programs.

First, we have frequently forgotten that "everything is connected to everything else." Nothing exists in a vacuum, least of all a social movement, and yet in the early days of environmental education many of us kidded ourselves into thinking environmental education could and would move onward and upward untouched by the profound tides agitating the country.

How wrong we were. Indeed, if E-Day had been scheduled for May 22, 1970, instead of April 22, I doubt if it would have come at all, at least not on college campuses. Because in mid-May, 1970, as you well recall, the energies of millions were consumed by a fervent backlash to Mr. Nixon's Cambodian incursion. Kent State and Jackson State were the worst, but they were only two of hundreds

of campus anti-Vietnam confrontations that sucked the sap out of the E-Day thrust before it had scarcely gotten started.

Distraction was to pile on distraction--Watergate, inflation, recession, Mideast turmoil--you name it, and we have had it in the last five years, to the end result that environmental educators have been staggering around the ring. If we had been less naive in our assumptions and less sanguine in our expectations, I believe today's ennui would not be so deep. Hopefully we will be more realistic in the days ahead, capitalizing on, rather than capitulating to, competing stresses.

Secondly, in our national environmental education strategy we have ignored the fact that while "everything has to go somewhere," it doesn't have to go everywhere. By that I mean, we have tended to sprinkle our limited resources, like diluted fertilizer, on every conceivable field, instead of concentrating on soil of proven production and potential. The USOE performance under the Environmental Education Act has been particularly poor in this regard.

What are the agencies and organizations with a long history of at least partial success in conservation education? Certainly not the public schools, and certainly not the ad hoc youth groups on which USOE lavished such attention. I submit the only viable conservation message transmitted for many years has been through such federal bureaus as the Forest Service, the SCS, and the National Park Service, and through such voluntary associations as Audubon, Sierra, National Wildlife, and Friends of the Earth. Perhaps the public education agency with the best problem-solving track record of all is the Cooperative Extension Service, a remarkable alliance of the USDA, landgrant universities, and county boards.

And yet for all practical purposes not one of these old-line conservation bureaus and clubs got a nickel in new environmental education money. I think it is time to bet on the David Browers and the county agents of the country instead of on so-called "innovative" outfits. If we do not, environmental education will continue to consist largely of letterhead pieties and convention oratory, and we will continue to take two backward steps for each forward stride.

Third, we have collectively and cavalierly forgotten that "there is no such thing as a free lunch." Whatever possessed us to think the groundrules of ecology would repeal the groundrules of economics, I don't know. But we did. Somehow we assumed we could junk automobiles without junking auto workers. We figured we could halt pipelines without jeopardizing home heating. And we thought people would pay for water pollution controls in lieu of hamburger. It was not to be. It is not to be. We must stop kidding the troops. We must lay it on the line--all the benefits and all the costs. And then if our fellow citizens don't opt for ecological solutions, that will simply mean we weren't the species that was supposed to survive in the first place. (It is perfectly possible, for example, that cars will be around longer than humans.)

In substance, while we have repeated and repeated to ourselves that "nature truly bats last," we have forgotten that human nature bats first. In so doing we have ignored a key lesson of conservation history--that it is a cadre of scientific leaders that sets the environmental agenda in this country, not town meetings nor sophomore social studies classes.

May I remind you that the two great pieces of federal environmental management legislation of the past and present centuries were Congressional afterthoughts, drafted by small groups of experts and passed without public debate. I am referring to the so-called Forest Reserve Act of 1891 and NEPA, 1969.

The famous White House Conservation Conference of 1908, like E-Day 1970, marked the ebbing, not the beginning, of a wave. In a study of forest campers we have been conducting every three years in Wisconsin, we have found there was a quantum jump in their environmental intelligence between 1968 and 1971, and an actual decline from 1971 to 1974.

And the environmental education event verbalized by those campers as the most compelling was--guess what?--the view of Spaceship Earth from Neil Armstrong's moon on 21 July, 1969. We will probably need a series of similar fortuitous or staged photographs to re-fuel the environmental education rocket.

So it is time to re-think and re-group, to recognize the lessons of history lest we repeat our mistakes, and to move ahead:

> Though much is taken, much abides; and though
> We are not that strength which in old days
> Moved earth and heaven, that which we are, we are:
> One equal temper of heroic hearts
> Made weak by time and fate, but strong in will
> To strive, to seek, to find, and not to yield.
>
> -Tennyson

Keynote #2: PROGRAMS OR PEOPLE?

Edward Landin
Change Agency
St. Paul, Minnesota

The environmental movement is in trouble and may fail entirely because it is too concerned with programs. In almost every instance programs fail; it is people who get things done--either through a sense of personal conviction, or in response to a specific need.

Programs fail because they are based on a concept of authority, rather than the needs and desires of people. There is a growing environmental education professionalism which is getting away from the environmental education needs and concerns of the people they are supposed to serve. This professional establishment is for the most part made up of middle-class, white, college-educated people who are almost exclusively concerned with verbal and paper programs rather than the real world of environmental concerns. There is evidence that the environmental education field is becoming even more structured and program centered. The FICE Committee project to bring together and coordinate federal agency programs and the UNESCO project to assess programs on an international basis are examples of this undesirable trend.

One reason why environmental education programs fail is that it is impossible to reduce the infinite number of variables in any environmental situation to a simple formula for change. Programs merely identify and analyze. Therefore, they do not work in the field. We must realize that we have a mandate from the people to show them how to solve environmental problems, and this means the ability to bring about change.

Our task then is to stop trying to build a vast professional superstructure and get environmental education back to the practitioner level. We must be facilitators, not program producers. We must always remember that from the people comes the authority; therefore, they must be involved in the decision-making process. Our task as environmental educators is to help people accomplish the goals and objectives they feel are important.

Keynote #3: PLANNING AND LEADERSHIP

Richard Rocchio
Center for Research and Education
Denver, Colorado

For some time now I have been working in the area of state environmental education planning--first with the State of Colorado, and later with a number of other states. Recently I wrote a book on the subject which summarizes the knowledge and expertise gained through over 30 state plans produced over the past several years. One must sadly conclude from a study of the situation that most state plans ended up as ends in themselves rather than as guides to constructive action.

One of the major problems in the environmental education field is that we have tried to be all things to all people. In so doing, we have intruded into a number of areas threatening the established order. We must try to discover what our particular niche is and define our relationship to other disciplines and institutions if we are to be effective.

Another major problem among environmental educators is their political and economic naivete. We also lack a solid grasp of environmental technology and therefore fail to see all of the technological possibilities for solving our problems.

Environmental education should be concerned with helping people clarify what they would like to have environmentally speaking, and then show them how to bring this about. Changing behavior is the key. Certain kinds of behavior have resulted in the present environmental situation in which we find ourselves, and behavioral changes are necessary if we are to find ways out of our dilemma.

In my studies of state plans, I find that, according to those in charge, great numbers of people had an opportunity to make an input--as many as 10,000 people in Texas and Alabama, for example. In nearly all of the plans, the top priority identified by most people was training for teachers and community leaders involved in environmental education work. Other concerns--curriculum development, mass media, teaching materials, facilities development--were consistently rated lower on the priority scale. Yet a study of most current expenditures of environmental education funds shows that most of it is going to curriculum and facilities development. Why have we as environmental educators chosen to ignore the clearly expressed needs of those whom we are supposedly trying to serve?

It would be wise for us to focus attention on decision makers and those who implement technology. This involves taking risks, but most of us are afraid to do this. We prefer doing what is safe and noncontroversial.

By and large, environmental educators are not accountable for what they are supposed to be doing--bringing about constructive change. We produce our reports, curricula, facilities and all the rest because that is the safe and easy way. We play the numbers game, equating success with the quantity of brochures distributed, numbers of students attending outdoor schools, and so on, never asking ourselves if we are really making a difference environmentally speaking. We also tend to place an over-reliance on money, using a lack of it as an excuse for inaction.

We place a great emphasis on the transferability of experience. We believe that taking city kids out to a so-called natural environment to identify plants and animals is somehow going to make them better able to solve the environmental problems of the city.

Leadership? There isn't any. If anyone thinks the U.S. Office of Education provides leadership in environmental education, where are they? I can't even understand the definitions they propose for environmental education! The Department of Health, Education and Welare has a budget of $125 billion. Of this, $1 to $2 million goes for environmental education. This allocation of money is a pretty clear expression as to the importance HEW attaches to environmental education. The day of federal discretionary program funding is gone. The relationship between discretionary federal funds and state departments of education is disasterous.

Who can provide leadership? We can, if we are willing to unchain ourselves from parochial interests and provincial concerns. If we could do this, we would be sucked into the leadership vacuum which currently exists.

Keynote #4: POSITIVES AND NEGATIVES

Jerome Perlinski
Center for Future Development
Denver, Colorado

I'd like to talk about one positive side of environmental education as I see it, and one negative side. The positive is that environmental education is one of the few areas--perhaps the only one--where people are concerned, at least theoretically, with changing attitudes rather than simply continuing attitudes or continuing their traditions. So, I think environmental educators, at least theoretically, are supposed to be aware that we act on different world views and that if we change that view, we will get the kind of change in behavior that Rich Rocchio is talking about. Another way of saying this is, if the environmental educator is doing his/her job, then the principal concern is not legal, economic, historical, or political changes, but interior changes of attitude, the recognition that human action changes some world views.

As I see it, the change you want to effect--that we all want to effect--is the change from the human dominator to the human evolver; from the human controller/destroyer to the human cooperator; from man versus nature to man-hyphen-nature. That's what this is all about; we are trying to change to the other view. The reason I think this fact is crucial is twofold: (1) I think most all other areas of education--I guess I'd say all of them--have been bought off by the prevailing technocracy. They believe that change is good only insofar as it will get us more organized and more efficient and then we'll all be much happier. I think environmental education either doesn't believe that or hasn't quite succumbed to that. (2) I think the basic principle of environmental education is interdependence and that is the principal intuition of the 20th century. If you want to feel good, what you're all about is what the whole thrust of the 20th century is about. If you follow that vocation, you're on the right track.

The negative side is far more crucial than the positive side, because the positive side tends to be theoretical rather than practical and that may be only academic. The negative side is the problem of cynicism, defined simply as this infection of our attitudes, of our minds, of our world views, which says that nothing really big is going to change very much or, if it does, it is only going to change to the advantage of the very few, usually the rich or the powerful. Perhaps another view of cynicism is something that is shared by many people here, which is, "I know how things ought to change" or "I know the best way they ought to change." Cynicism is opting for the probable, rather than the possible.

I have some ideas on cynicism. First of all, all of us are infected by it. There is no human being I know who is not infected by it; the more we participate in 20th century life, the more we, as participants, are infected by it. So, if you take what I said as the positive side, you are right on track in the 20th century and very probably you are right on track on the cynical side. Those who are most specifically 20th century people are most prone to cynicism.

Most of us who listen to someone who talks about cynicism have an attitude of trying automatically to put up shields about ourselves and say, "Not me, I'm not the cynical one; I came to this conference; I really care. I've spend this money; I've cleaned up this stream," and so forth. Cynicism is a very subtle reality, as well as being a very obvious reality. It shows itself in many ways. Obviously there are easy ways, but the subtle ways are more difficult. One of those subtle ways are those people who say: "Let's get down to the business we are supposed to do. We have decisions to make, plans to describe, programs to evaluate, money to get to bring about change," and so on. "Let's get down to brass tacks; let's not talk about human values and human attitudes." I think that shows a lack of perspective of the importance of human values. For example, those of you who think that you know who runs this conference and what it's all about and what they're trying to get at, I think that's showing a certain amount of cynicism.

A second way is the attitude, "Well, other people are cynical but I'm all right. I know how I want to live, I know what to change; it's the others who don't. It's the powers, the structures, the profession, the government, the federal agencies. They don't want to do it. They're the problem in this whole mess. I know what the possibility is but it's probably not going to happen so I'm going to be realistic."

Another way of showing cynicism is, "I'm already here; I really do care." What I want to suggest is, how pure is that care? How many people are here with a program to sell, or a certain set of values already set in their minds that they are going to try to push at this kind of conference? The opposite, of course, is cooperation.

Thirdly, cynicism is very hard to recognize in yourself. It's an interior disease. The only way you are sometimes aware of cynicism is if you preserve a part of yourself that is not cynical. Sometimes the only part we have is the relationship we share with a person we love, but even there, sometimes there is a great deal of cynicism.

It is very hard to see your own cynicism. It is a disease that saps our strength, vitality, and enthusiasm. I think that is exactly what has happened to the world--not only this country but to the world. There is no enthusiasm in the world. There isn't the belief that it is really possible to be different. There is simply the option that we'll do as little as we can, and change as little as we can, and see what happens. I think if we let that disease grow, it is like other diseases: it kills. What it kills is the imagination;

when you kill your imagination, you kill all your options. You don't think of another way to do something except the way that you're in. Since many of you are teachers, I think you see that all the time.

My conclusion is a syllogism. I believe we are in this cultural state right now. We are in a state of cynicism both on a personal and a world scale. The only possible way out of it is human cooperation. You can translate that into environmentalist terms--this is called interdependence. Interdependence is the obverse of cynicism. To the extent that each one of us is cynical, to that extent we deny the principle of interdependence. Now especially is this true in human-to-human contact. This is really why you are attending this conference. For people whose whole discipline and thrust is interdependence, to be cynical, to settle for the probable rather than the possible, to preach this interdependence of man and his natural environment, but to doubt the probability of interdependence of human-to-human, has only one name.

Keynote #5: BLENDING THE THEORETICAL AND PRACTICAL

Russell M. Agne, Assistant Professor of Education
University of Vermont—Burlington

There seems to be considerable interest on the part of college students for courses and degree programs in environmental education. In many ways these young people are more visionary about environmental education than the faculty, and I see this as a healthy pressure on the academic community.

In my work I see movement toward a skillful blending of the theoretical and the practical. This is a healthy trend, and I feel we as teacher educators must help students learn how to simplify technical information to make it comprehensible and useful to the average person. I am not sure, for example, that Commoner's laws are clearly understood outside of the profession. Economics is an area in which environmental educators are weak, and I would recommend that we put more emphasis on this area in teacher training.

One of the major advantages of environmental education is its focus on one's local environment and its emphasis on the role of the individual in identifying and solving problems. I use simulations focusing on local problems in my work with students, and also provide them with many opportunities to become involved in state or local environmental improvement projects.

Environmental education has been a healthy force in encouraging interdisciplinary learning. At the University of Vermont, for example, the environmental studies program directed by Carl Ridel has no permanent faculty but simply shares staff from all divisions of the University.

The work Rich Rocchio did in gathering together extensive information on state planning is a valuable contribution to the field. We need to avoid senseless duplication of effort, and studies like this help us do so. The points Rich made concerning the necessity of making trade offs in solving environmental problems and avoiding the establishment of an environmental education elite are important.

We make a mistake when we say that the goal of environmental education is awareness. Awareness is important, but unless it leads to the acquisition of knowledge, the development of skills and a commitment to effective action, it is useless. In his book, The Transtaffle Principle, Dolan describes the environmental evangelists

and the environmental radicals. Evangelists see lifestyle as the problem, while the radicals try to solve everything by political action. Political action is probably the more valuable of these two alternatives.

Some environmental educators have a verbal commitment to the environment, but remain loyal to the corporations. We're going to have to change some of the practices of the corporations, but we must avoid becoming the ugly ecologists in doing so. Perhaps the answer here is to introduce students to humanistic psychology through which they might clarify the types of change they seek. We need broad public support if we are to be effective, and so must work at developing programs which have wide acceptance.

Future orientation is important to environmental education. We must avoid the doomsday approach, and help people work for a better future. There is no point in our efforts if we do not believe that environmental education can help people solve problems and make life better for us all.

We must continue our work in the all-important area of values clarification, but must not let our zeal for environmental education lead us into value feeding.

Keynote #6: THE DILEMMA

Noel McInnis, Consultant
Environmental Education
Portland, Oregon

Environmental educators face a real dilemma. If we really bring about the changes we feel we are committed to, we stand to lose our jobs, because most of us are employed in an institutional framework designed to prevent change at all costs.

Most of us believe that if you provide people with accurate information about a situation, their values, attitudes, and behavior change for the better. I do not accept this traditional model. In my own experience, I have found that environmental changes were the key factor. When there were changes in my environment, I began looking for information which would help me adapt to the new situation. Perhaps the great accomplishment of environmental education will be that we will be able to keep people interested in why the environmental crunch came into their lives, and how to avoid future crunches.

A major problem we as environmental educators face is helping people understand an extremely complex and interrelated environment which none of us fully comprehend. Perhaps the human mind is capable of understanding this complexity, but we have not presently developed our perceptions to that point.

Environment as a concept or teachable term is dead. That is to say that when you define something you limit it, and since we are constantly discovering new dimensions to the environment and environmental education, we cannot accept the limitations which are implied by definition. Environment is all things to all people. You can be in favor of the environment, but still be working at cross purposes with others who are equally in favor of the environment. That is why if you put all the environmentalists in the world end-to-end, they still would point in every direction.

I believe that our environmental values and ethics are too limited. Even now plans are going ahead to develop ninety more Snowmasses in virtually every valley in Colorado. We have become a United States of Greed. What is needed is a land ethic which is wider than humanity or any one aspect of earth such as land, energy, food, or whatever.

Another problem with which we are dealing is that we don't know how to think systems - and this includes most everyone in this room. We see a little part of a situation and apply to it a remedy

which seems appropriate at the time. Usually we fail to see the whole picture - the total system or interrelated systems with which we are dealing. I believe that environmental educators should be using the schools and media to help people discover and understand as many systems as possible through systems metaphors such as space-ship earth. Understanding systems does not provide solutions, but it does help people understand complex interrelationships.

As a further illustration of a systems metaphor, I would like to share with you a poem written by Ilene Wright and me entitled "We Are Living in Our Children's House."*

Earth is a single household
The planet's winds and waters see to that
So interlinked are they that each square
mile of earthly surface contains some
stuff from every other mile.
Some say the winds alone carried top soil
from the 1930's dust bowl three
times around the earth before the
atmosphere was cleansed of it.
Today earth's soil and air disseminates
exhausts of billions of tail pipes and
chimneys while the global network of
her waterways spends other human waste
around the planet.

As we alter the content of earth's
atmosphere and tamper with the chemistry of
her waters, we take her life into our
hands along with all the life that is
yet to come.
Earth is a single household, but the household
is not ours.
We are only visitors in the living room of
those about to follow,
Caretakers of the hospitality and shelter
that our house affords.
Our children, not ourselves are the
earthly household's host,
And we are but their household's privileged
guests.
Why then do we abuse their mansion so,
As if we had the right to wreck their residence

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What have they and their children done to earn
the life of struggling to restore what we
have undone?
Of what crimes do we hold our children guilty
that we sentence them to life at such
hard labor?
What are we doing to our children's living
room as we trample, scrape and pave its
carpets bare?
Our children ask the earth for bread
We are giving them a stump.

Another systems metaphor which may be useful to environmental educators includes the concept of lifekind. This concept is all-inclusive and includes the whole earth because you can't talk about life without talking about the non-living systems which sustain it. My own opinion is that lifekind provides a conceptual basis from which we might be able to develop an ethical point of view and a set of values which would not be possible through a limited concept such as a land or energy ethic.

Another whole systems metaphor that works for me is that of Karma-reincarnation. If you believe as I do that you are part of a system in which souls are recycled and that you are here to accomplish something and that you do come back, you can develop a pretty acceptable environmental ethic. I don't only feel that I am a guest in my children's house. In a way I am a host, because I'll be a child again.

APPENDICES

Appendix A: NATIONAL ENVIRONMENTAL EDUCATION CONFERENCE AGENDA

July 7	9 A.M. - Lunch	GENERAL SESSION I - PANEL PRESENTATION A panel of critics will be assembled to: 1. Present overarching issues in environmental education. 2. Critique present environmental education programs, affairs, efforts. 3. Suggest logical future directions for environmental education.
	1 P.M. - 4:30 P.M.	INTEREST GROUP SESSION I - PROBLEM ANALYSIS Each interest group will assemble with a facilitator and engage in the following tasks: 1. Discuss and decide on the validity of the information presented by the panel. 2. Analyze the conference inputs as they pertain to the domain of the interest groups. (Prepared statements, group experience, etc.) 3. Come to agreement on the environmental education goals of the interest group. Prioritize top three. 4. Discuss and list at least three goals for each other interest group based upon conference inputs and individual's familiarity with the domain of each other interest group. 5. State all goals in written form to be presented to all conferees in General Session II, Tuesday A.M.
July 8	9 A.M. - 10:30 A.M.	GENERAL SESSION II - SHARING PERCEPTIONS Information passing session in which the goals derived from the previous day's discussions are presented to the entire group. Minimal discussion.
	10:30 A.M. - Lunch	INTERGROUP SESSION I - DISCUSSING PERCEPTIONS 1. Representatives from different interest groups will meet together to discuss information shared in

General Session II. (The composition of each intergroup will be determined after the composition of the entire conference is known.)

2. Intergroups will validate perceptions of one another's goals insofar as those goals are the domain of the individuals in the intergroup.
3. Prepare at least three goal-related recommendtions in a form to be submitted to interest groups.

1 P.M. - 3:30 P.M. Continuation of above tasks until completed.

July 9 9 A.M. - Lunch INTEREST GROUP SESSION II - INFORMATIVE ANALYSIS

1. Analyze inputs from other groups relative to domain of interest group.
2. Assess validity of inputs.
3. Prepare a status statement - what is.
4. Prepare three major goal statements - what ought to be.
5. Prepare goal-related recommendations - how to proceed from what is to what ought to be.
6. Prepare above in form to deliver to all conferees.

1 P.M. - 3:30 P.M. GENERAL SESSION III - SUMMARY AND VALIDATION

1. Representatives of interest groups present goals and recommendations to conferees.
2. Conferees validate goals and recommendations insofar as time permits.
3. Conclude conference.

Appendix B: RESPONSE (VALIDATION) BY THE FEDERAL AGENCIES GROUP OF THE INFORMATION PRESENTED BY THE KEY-NOTE PANEL

1. We regret that the panel presentation contained little substantive informational input that was susceptible of validation and few suggestions as to constructive directions for this conference, the Alliance, or environmental education in general to pursue.

2. We sensed in much of the six presentations a minor key suggestive of insecurity or even defeatism. As a group, we would express a more optimistic view of the environmental education movement, its progress, and its prospects for the future.

3. We hold that change in modern societies is a highly institutionalized process and reject the thesis that all structured, organized programs are foredoomed to failure, either because of their authoritarian base or for any other reason. We suggest that rather than postulating a dichotomy between "grass-roots community" efforts and broader initatives, that a dualism involving both processes in a constructively interactive mode approaches the ideal. In the same vein, we would seek a mutually supportive dualism involving environmental protection and betterment on the one hand and the economic and social needs of the people on the other, recognizing that optimization of frequently conflicting interests will demand rational decisions, trade-offs, compromises and reconciliations.

4. We recognize that the Federal Government does not view environmental education as an end in itself, but rather serves it as the mission responsibilities of the several Agencies dictate. This is likely to mean in the future (as in the present) Federal support for environmental education will be modest in amount and uneven in coverage. Environmental education will receive Federal support only when it represents the delivery mode of choice, competing against legislation, regulation, delegation to state or local jurisdiction, etc. The Federal Government will, however, attempt to target its efforts in a manner calculated to achieve significant results.

5. We recommend the report of the Conference be viewed not as an ultimate product, but as a means for communicating our collective judgements to those who can utilize the report in taking actions that will enhance environmental quality.

Appendix C: PRELIMINARY REPORT FOR HIGHER EDUCATION

by Esther Railton

Four hundred questionnaires were sent out. Of these, 80* were filled out and returned, 21 were returned because of change of appointment or address; the rest simply did not respond. Several of those who answered questionnaires asked for additional information about the purpose of the conference in Denver.

Names were obtained from persons who had previously corresponded with or were personal acquaintances of the higher education committee chairman; from names furnished by Robert S. Cook of the University of Wisconsin; fron resource persons listed in his bulletins, namely "Appendix, Notes on the Contributors", Processes and Practices, ed. by Walter J. Herrscher and Robert S. Cook, Green Bay: U. Wisconsin, 1973, pp. 79-93, and "Notes on the Contributors" in Processes for a Quality Environment, ed. by Robert S. Cook and George T. O'Hearn, Green Bay: U. Wisconsin, 1951, pp 165-166. The following directories supplied the remaining correspondents:

The Conservation Education Association, Directory of Degree Programs. Compiled by Russel E. Bachert, Jr., 1971.

Conservation Education Association. 1973-74 "Membership Roster."

Department of Outdoor Teacher Education, Northern Illinois University, Leaders in Outdoor Education. Orville E. Jones and Douglas E. Wade, Co-Editors, 1971.

National Association for Environmental Education, 3rd Annual Conference. "Preliminary Registrants List," April 28-May 1, 1974. San Francisco.

Outdoor Education Association, National Conference, Estes Park, Colorado, "List of persons who attended." September 26-29.

Outdoor Pursuits in Higher Education, The Proceedings of the First North American Conference. Boone, North Carolina, February 10-13, 1974. Consultants and participants lists.

The question presents itself whether the responses are representative of higher education programs. In surveying the list,

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*Late responses brought the total to 83 returns. These are not included in the preliminary data reported in this paper.

programs known to the chairman are represented. The responses, which came from twenty eight states, include 19 graduate programs (24%), 32 four-year programs (40%), and four two-year colleges (2.5%). The following table indicates the kinds of programs or where the programs were centered, if this was specified on the return.

	Percent
Science (all but one in Biology)	16
Recreation	10
Natural Resources	6
Political Science	5
Geography	3
Continuing Education	3
Environmental Studies (N=11)	17
Teacher Education	40
Preservice	20
Inservice	17
Separate Institutes for Environmental Studies	2.5
Internships	2.5

N = 80

Some of the respondents sent program descriptions and articles they had written, while others referred to other written sources. These materials are being studies separately. However, some previous surveys about the status of environmental education in colleges and universities should be compared to these findings. One of these is "Progress in Environmental Education (1970-75)" by John H. Trent, College of Education, University of Nevada, Reno. It is published by the Institute of Environmental Sciences, 940 East Northwest Highway, Mt. Prospect, Illinois 60056 (1975 Proceedings, Volume II, Pages 122-124). Another, published since the initiation of this survey, is Selected Environmental Education Programs in North American Higher Education, edited by Arden L. Pratt and published by the National Association for Environmental Education, 1974. John Loret of Queens College has been collecting data for an AAPHER review of successful environmental education programs. In Illinois a special state master plan was prepared for higher education. The report is available from Robert C. Spencer at Sangamon State University in Springfield.

The data from this open-ended survey fall into four categories: the content of environmental studies, teacher education, the school systems of the states, and the society.

Environmental Studies Programs

On the positive side of environmental studies, there are reputed to be high interest in the field, people who are willing to assist, and a growing number of interdisciplinary programs. However, problems

include lack of interdisciplinary approach on many campuses, struggle for ownership in departments, the title "environmental" being tagged on old courses, and loose collections of existing not being coordinated.

Leadership and funds were most frequently cited as lacking. Two respondents still decry the need for a definition for environmental education, especially with regard to criteria for getting funds. There seems to be lack of interest generally except among those students and faculty already concentrating in environmental education. A need is recognized for public information.

Those interested are subject to hucksterism, shallow thinking, obsession with values clarification techniques without due attention to the knowledge and processes required for sound decision making. Such persons become scapegoats for the problems of industry, oil companies, ranchers and farmers.

A felt need was expressed for national, state, and local coordination among colleges, schools, legislators and agencies. Several expressed a need for curriculum models.

Ideal

There is no doubt that the ideal curriculum was seen to be an interdisciplinary organization which would allow problem solving, relate issues to political and economic questions, permit a global perspective, and generally give a wholistic approach. Need was seen for a national professional group to coordinate regional and individual efforts. It would disseminate information, draw operating guidelines, identify and evaluate teaching models. The students should have experience both in the wilderness and with urban environmental tasks. They should have training in science, economics, government, measurement, and in establishing standards of environmental quality. They should work with issues.

Recommendations

Recommendations were numerous, but there was agreement that the Alliance for Environmental Education could help with teaching materials, agreement on an acceptable definition of environmental education, and clarification of vocabulary, with a curriculum framework and by sponsoring conferences and workshops on issues. It was believed that the Alliance for Environmental Education could serve as a clearinghouse for information. A nationwide society for environmental education was suggested which would hold yearly meetings with participants from smaller environmental organizations. It would have its own journal and information dissemination facilities.

More cautious correspondents expressed the belief that each institution must do the best it can. The committee was admonished to work carefully and methodically, to be sure of its data base, to be constructive in approach and to build credibility, avoiding

self and industrial interests, and to give consideration to assumptions.

Other recommendations had to do with the institutions themselves. It was agreed that efforts need to be coordinated, but a few believe that for administrative purposes the programs should be placed in one department. Most correspondents stressed the interdisciplinary approach. These programs should: assist students to analyze job prospects; appraise their own strengths and remedy their own weaknesses; emphasize student and class projects which are directed toward solution of local problems; develop and teach strategies for handling hot issues and environmental problem solving; teach leadership skills balanced with a sound data bank of concepts and information. Besides training the environmental specialist, colleges and universities should reach all students with a general awareness course. Both undergraduate and graduate programs were proposed. Specific programs for urban and rural regions were recommended.

Priority

Although priorities differed according to local conditions, there was agreement on the need for support funds, interagency cooperation, coordinated efforts, a basic curriculum and trained leadership. Education had highest priority over legislation, regulation or any other means of protecting environmental quality.

Teacher Education

Status

Teacher education departments seem to be developing more environmental education than are the disciplines. Data indicate this may be because these departments are already interdisciplinary in nature and because they have already established liaison with the schools and other community agencies. Both preservice and inservice graduate and undergraduate programs were reported to be in the planning or implementation stages. Some programs, however, were federally funded and had to be discontinued just as they were getting underway.

In addition to the problem of temporary funding, concern was expressed about duplication and lack of theme in the multitude of activities and materials. Low ecological literacy among education professors is another problem. While teachers need inservice courses, many offerings seem irrelevant. Therefore, they seek credit for courses taught by agencies. Teachers are eager but often meet apathy in colleges of education even though individual professors share their environmental interest. On the other hand, one professor reported a problem in finding placements for students to do field work in environmental education.

As to preservice education, there was general agreement that all teaching candidates should have a comprehensive environmental

studies course, whether they sought elementary, secondary or adult education credentials. In addition, environmental teaching should be part of their practice training.

Ideal

The ideal in teacher education was perceived to be more environmental education for preservice teachers, master's degree programs combining educational and environmental expertise, short courses and workshops for inservice education. In these courses skills would be practiced so that teachers would feel competent in environmental education techniques. Inevitably, jobs waiting were also mentioned as part of the ideal situation.

Recommendations

Some recommended that competencies for teaching environmental education be agreed upon and included in credentialling programs. More agreed that teachers should not be credentialed without some training. Inservice teachers should be offered workshops, short courses and advanced degree programs. In order to accomplish this, college professors should take environmental courses or visit schools with well-developed programs. Representatives of colleges and universities should meet to develop guidelines for preservice and inservice programs. Furthermore, environmental educators, functioning as change agents, should work with teachers, administrators and community personnel to restructure curriculum, upgrade materials and provide training. Furthermore, it was suggested that "noisy" activists be retrained in factual information and educational methodology.

That goals need to be defined and vocabulary clarified was not only postulated but evidenced by the variety of answers, ranging from land-use to nutrition education to nature training. Research needs to be done at all levels to determine what environmental problems lend themselves to the curriculum and what environmental experiences result in behavior change that reflects concern for the earth's resources.

Priorities

Funding was given priority most often; moreover, one suggested an education committee investigate sources of funding. Others listed state guidelines and certification policies for environmental education. Otherwise there was little agreement as to which of the previously stated recommendations should have priority. Although the training of curriculum leaders and specialists was recommended, this did not have priority over the need for some environmental training for all teachers.

Schools

Responses regarding elementary and secondary education relate closely to those concerning teacher education. Although these are being inventoried separately, college professors chose to talk about them.

Present Status

The premise that little is being done is attributed to apathy among administrators and the attitude that environmental education is something extra in the curriculum. On the other hand, integration is difficult because of the confusion as to whether environmental education is outdoor education, outdoor science, conservation, or something else. Environmental education needs to have a specific outlook with a limited amount of material which is to be integrated. Other problems appear to be lack of trained leadership and the inadequacy of proliferated and propagandizing materials. Lacking expertise, teachers are reluctant to get their pupils involved in environmental education. Evaluation materials need to be constructed and validated.

Ideal

There was agreement that there should be a flexible K-12 environmental education curriculum in all schools. The approach should be interdisciplinary. It was generally agreed that state departments of education should expedite this through the development of curriculum guidelines, and by the establishment of credential requirements which include some environmental education. Congress should appropriate adequate funds for trained leadership at state, county and district levels.

Recommendations

The college professors recommended that teachers should have inservice training, better materials and highly qualified leadership who know both technical information and how to bring about curriculum change. It was commented that "we've sold each other, now let's get to the administrators and legislators who can make it happen".

There was agreement that high schools should offer at least one course in environmental problem solving techniques, but that environmental education should be part of every subject in all grade levels. Students' interest would be captured through short, in-depth studies of local issues that reflect global concerns. The outcome would be a new ethic which recognizes the environmental consequences of all human activity.

Priorities

The correspondents agreed that priority should be given to a basic curriculum that would develop environmental concepts and awareness in every student at all levels. Others believed curriculum specialists should be available. It was proposed that school districts should be involved in planning college curricula for environmental education, materials, and the organization of inservice projects.

Society

College programs could not be analyzed without comment about society. Some listed environmental problems needing immediate research, and about which the public needs information and strategies for action. The needs were pollution, population, energy, coastal zones, land management, protection of pristine areas, disposal systems, transportation, and nutrition. The professors regard people as unaware, misinformed, and apathetic, enjoying a life style directed toward over-consumption. Given a choice between economics and environment, the dollar wins, from the national government on down. In this confusion, mass media are seen as potentially powerful change agents with cognitive and affective influences and capable of working within and across all social institutions for environmental problem solving.

Ideal

The ideal environment, according to the respondents, would be a society totally committed to conservation of resources. Every citizen would be knowledgeable enough to deal intelligently and ethically with each environmental issue which emerges. Intergenerational resources in churches, schools and communities would focus on environmental ethics.

Recommendations

According to the professors, community information programs should stimulate action. Parks information programs should include urban areas outside their land boundaries. Parks and campgrounds are needed, in areas accessible to all. Research should include attitude and behavior changes of the private citizen as a result of these programs. Manpower and financial restraints should be eased. Sponsorship needs to be separated from legislation, public information programs, and research.

Priority

Priorities for quality environment would include information about production of data, land use planning, energy, transportation and water resources management. Alternatives should be discussed

in classrooms, social and professional group meetings and other public forums. Young people and adults should be involved together in discussing and acting on issues.

Summary

Not all of the respondents' opinions and experience was like that of the researcher. There was surprising agreement in interdisciplinary approach at all levels including college, on the need for teacher training, for a curriculum and vocabulary frame of reference, for some guidelines for the production of significant and coherent educational materials, for cooperation among all agencies and for research to know what is being done and what should be done. While the need for environmental and teaching specialists was recognized, it did not have the significance of the need for environmental awareness and conceptual training for every person. The respondents were sensitive to the need for an information clearinghouse and for a general interagency conference on environmental education.

Bibliography on Higher Education

These selected references were called to the attention of the committee during the preparation of the preliminary report:

Agne, Russell M. and Robert J. Nash, "Environmental Education: a Fraudulent Revolution?" Environmental Education Reports, Vol. 76, No. 2, December 1974, pp 304-315.

California State Colleges, Proceedings of an Invitational Workshop on Curriculum Development in Ecology and Related Environmental Sciences. Los Angeles: Office of the Chancellor, Division of Academic Planning, 1970.

Cook, Robert S. and George T. O'Hearn, eds. Processes for a Quality Environment. A Report of the National Conference on Environmental Education. Green Bay: The University of Wisconsin, 1970.

Havlic, Spencer W., Urban Organism. New York: Macmillan, 1974.

Helgeson, Stanley L., A Review of Environmental Education for Elementary and Secondary Teachers. Ohio State University, Columbus, Research Foundation, ERIC Document ED 059 914, December 1971.

Helgeson, Stanley L., A Review of Environmental Education for Teachers of Urban Disadvantaged. Ohio State University, Columbus, Research Foundation, ERIC Document ED 059 915, December 1971.

Herrscher, Walter J. and Robert S. Cook. Environmental Responsibility in Higher Education: Processes and Practices. A Report of a National Conference on Environmental Studies Programs in Higher Education. Green Bay: University of Wisconsin, 1972.

Illinois Board of Higher Education, A Work Force for Environment and Energy. A Master Plan for Environmental/Energy Higher Education in Illinois. Springfield, 1975.

Khare, R. S., J. W. Kolka and C. A. Pollis, eds. Environmental Quality and Social Responsibility. Symposium Proceedings. Green Bay: University of Wisconsin, 1971.

Lutts, Ralph H. "Environmental Studies in the Five Colleges", A Consortium approach to college-level environmental education (Connecticut), Environmental Education Report, May, 1975, pp 3-5.

Perelman, Lewis J. and William H. Bergquist. Growth and Education. Report to the Rockefeller Brothers Fund. Boulder, Western Interstate Commission for Higher Education, 1974.

Pratt, Arden L., Ed. Selected Environmental Education Programs in North American Higher Education. National Association for Environmental Education, 1974.

Richardson, Ralph W., Jr. and Roderick Nash. Four Universities Achieving Environmental Quality Through Environmental Education and Research. A Special Report from the Rockefeller Foundation. (Pennsylvania State University, University of Michigan, Utah State University, University of California-Davis). New York: Rockefeller Foundation, 1974. Contains a bibliography on Environmental Education in Higher Education.

Rocchio, Richard and Eve Lee. On Being a Master Planner. A Step-by-Step Guide from a Nationwide Study of Environmental Education Planning. Denver: Center for Research and Education, ERIC Document, 1974.

Roth, Robert E. "International and National Environmental Education, A Status Report." Paper presented at the meeting of the American Nature Study Society affiliated with the American Association for the Advancement of Science. San Francisco, February, 1974.

Schumacher, E. F. Small is Beautiful. Harper Torch Books.

Walker, David. "At the Crossroads", Journal of Environmental Education, Vol. 6, No. 2.

Appendix D: SUBCOMMITTEE ON ENVIRONMENTAL EDUCATION OF THE FEDERAL INTERAGENCY COMMITTEE ON EDUCATION

As noted in the body of this paper, the Federal Interagency Committee on Education (FICE), in November of 1974, reestablished its Subcommittee on Environmental Education (SEE) and directed it to examine and take action toward improving interagency coordination in its area of concern. Approximately half of the 30 agencies that are members of FICE have taken part in the activities of SEE since its first meeting in January of 1975. (A complete list, as of July, 1975, of FICE members and the agencies participating in SEE is contained in this appendix.)

The objectives of interagency coordination of Federal efforts in environmental education are:

1. to assess the separately perceived needs of the environmental education community in order to so focus and orchestrate Federal support for education and manpower training efforts as to meet the greatest needs;

2. to examine that assessment for indications of constructive avenues for developing research and experimentation in cross-agency and/or cross-disciplinary activities;

3. to review and recommend improvements in interagency collaboration;

4. to develop and disseminate workable plans for the coordinated use of the resources for education of the various agencies;

5. to identify gaps between Federal programs where Federal (in distinction to state, local, and private) initiatives are needed;

6. to recommend methods for improving the use of existing materials and resources available from FICE member agencies (and others) in response to public interest; and

7. to improve the dissemination and utilization of the products of such grant programs as those conducted by the Division of Technology and Environmental Education (OE), the National Science Foundation, and the National Endowment for the Humanities.

Upon assessing the accomplishments and shortcomings of its predecessor, SEE determined that its first step should be to develop a definitive and systematic outline of concepts essential for environmental education.

The second step will be to use this list to identify, agency-by-agency and topic-by-topic, the extent of current Federal environmental education program coverage. Completion of step two also will yield a list of essential concepts not currently addressed by any Federal program.

The third step will be to analyze the "list of gaps" to determine whether items it contains are adequately treated by non-Federal programs and then to poll the FICE member agencies as to their possible responsibilities for the neglected topics.

The resultant data (i.e., the comprehensive outline of topics germane to environmental education, the identity and nature of Federal and some non-Federal programs addressed to each, and the final "list of gaps") will be given the widest possible circulation within the environmental education community. Users should find these compilations a means for locating useful assistance for environmental education.

The products of SEE also will constitute the basis for a recommendation for presidential ratification and promulgation. This in turn will stimulate the beginning of the Federal coordination that is a goal of FICE activity and, at the same time, it will suggest a division of labor within the Federal establishment and related resources allocation economies. Finally, the SEE mechanism itself may constitute a model of interagency coordination that states or regions may wish to utilize.

It is hoped that the systematic outline of concepts will provide a framework for the consideration of a wider range of delivery mechanisms and user groups for a more relevant environmental education. Textbook publishers, schools, university education departments, educational television, curriculum developers and supervisors, national citizen action groups (such as those represented at this Conference), local volunteer groups, and through these, decision makers in all sectors at all levels would be more likely to incorporate national environmental efforts into their activities with appropriate help.

The conceptual outline is organized around three major categories: (1) fundamentals of earth's environment, (2) humans as an integral part of earth's ecosystems and (3) harmonizing human needs with ecosystem limits.

One very significant element of the process of preparing the list has been the mutual education achieved among the Subcommittee members as they related the mission of their agency to the broader concerns of environmental problems and their solution. Although the concepts are stated concisely, their complexity has not been underestimated.

Another important aspect of the efforts of the Subcommittee has been the opportunity to identify inconsistencies which exist between identified environmental concerns and the availability of Federally sponsored materials and technical assistance that relate

to those concerns. To the extent that these inconsistencies are identified, Federal agencies will be better able to focus their combined resources to meet the needs of the public.

The efforts under FICE-SEE are a significant beginning, but only a beginning, to achieving some of the goals and objectives stated in the Environmental Education Act. The effort must be enriched by input from concerned individuals and non-governmental organizations regarding the ways and means by which the resources of Federal agencies can best be directed to meet the needs of environmental education practitioners. Perhaps what is needed is the equivalent of a FICE to represent the views of non-Federal groups; an intergroup body which would work to direct a coordinated input into the Federal establishment on matters relating to the practice of environmental education.

It is worth active consideration at this conference as to whether the Alliance can perform that function, coordinating with and complementing the FICE Subcommittee on Environmental Education?

FEDERAL INTERAGENCY COMMITTEE ON EDUCATION

Virginia Y. Trotter, Chairperson
Assistant Secretary for Education
Department of Health, Education and Welfare

Members

*Office of Education
National Institute of Education
Department of State
Department of Defense
*Department of Agriculture
Department of Labor
*National Science Foundation
*Energy Research and Development Administration
National Aeronautics and Space Administration
*ACTION
Alcohol, Drug Abuse, and Mental Health Administration
Civil Service Commission
*Community Services Administration
*Department of Commerce
*Department of Housing and Urban Development
*Department of the Interior
*Department of Justice
*Environmental Protection Agency
National Endowment for the Arts
National Endowment for the Humanities
National Institutes of Health
Office of Child Development
Social and Rehabilitation Service
*Veterans Administration

Observers

Office of Management and Budget
Council of Economic Advisors
*Council on Environmental Quality
National Academy of Sciences
Smithsonian Institution
*Federal Energy Administration
*Bernard Michael, Executive Director, FICE

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*Participating in Subcommittee on Environmental Education, Dr. Beatrice Willard, Chairperson, Member, President's Council on Environmental Quality

Appendix E: ENVIRONMENTAL EDUCATION PROJECTS AND ACTIVITIES IN FEDERAL AGENCIES: A SAMPLER

The following is a sampler of activities conducted by Federal agencies in support of environmental education. It is intended to suggest the range of agencies and programs and is not provided as a comprehensive list of all the programs or even of the most significant conducted by any one agency, much less the entire Federal establishment.

Department of Agriculture

The Forest Service has an environmental education office which sponsors workshops in environmental education. Originally designed for rangers and other Forest Service personnel, the workshops have also included school teachers, local officials, other state and Federal agency people, and members of volunteer groups. Another phase of the Forest Service program is designed to identify and make available for use by teachers and students appropriate environmental study areas within national forests. The Service also conducts an extensive cooperative camping program with the Scouting organizations and jointly conducts the Youth Conservation Corps with the U.S. Department of the Interior and others.

The Soil Conservation Service (SCS) carries out a program of direct assistance to schools through more than 3,000 field offices. Assistance given without charge includes conservation planning and management, development of outdoor classrooms, supplying information on natural resources use and management, design help on ponds for aquatic studies, selection and care of plants for wildlife habitat improvement and beautification, and help on integrating environmental conservation studies into school curricula. In cooperation with institutions of higher education, the agency has conducted regional conferences in order to learn how to work more effectively with teacher education programs. Service publications produced for teachers include "Outdoor Classrooms on School Sites", "An Outline for Teaching Conservation in Elementary Schools", "Teaching Soil and Water Conservation: A Classroom and Field Guide", "Environmental Education in Action", and others.

Department of Health, Education and Welfare

The National Institute of Education supports Resources in Education, a periodical produced by the Educational Resources Information Centers (ERIC) system. The abstracting of environmental documents for duplicating on microfiche and hard copy is done primarily through a contract with The Ohio State University in Columbus.

The Office of Education supports a wide range of environmental learning activities. The Office's Division of Technology and Environmental Education is responsible for administering the Environmental Education Act. Largely it is a grants program operation, but appropriations limitations have allowed the funding of only about 5 out of each 100 proposals received. Provisions of other education laws, however, have supported a wide range of activities in areas such as teacher education, curriculum development, and vocational education.

Department of the Interior

The National Park Service (NPS) has perhaps the greatest number of Federal employees directly involved in teaching environmental concepts. Through naturalists, rangers, self-guiding trails and numerous exhibits, the NPS encourages a wide variety of learning activities in an outdoor setting. The agency distributes various materials including a motion picture "Any Time, Any Place", which deals with the need for environmental education. It also maintains a program for identifying National Environmental Study Areas. The materials for the National Environmental Education Development (NEED) program, which was originated by NPS, are published by a commercial firm.

The Bureau of Land Management has published a curriculum guide for teachers in grades three through eight. It is entitled All Around You - An Environmental Study Guide. The Bureau's environmental education activities are largely in the Western states. In some states there is a Bureau environmental education coordinator who works directly with school systems and local organizations. Local Bureau offices participate in workshops, give classroom presentations on public land management and use issues and assist in environmental study area development. In the future, BLM expects to use environmental impact statements as teaching aids.

The Fish and Wildlife Service (FWS) does not directly teach formal environmental education but assistance is provided through teacher workshops, curriculum development efforts, general background and technical information, higher education curriculum development, and use of FWS lands by school groups engaged in environmental education activities. Several publications are available for professionals and some curriculum materials are available from a private publisher. FWS also conducts interpretive programs using information about fish and wildlife, exhibits, trails, audio-visual materials and other means for communicating with the public.

The Office of the Secretary of the Interior sponsors the Johnny Horizon program in cooperation with the Bicentennial Commission. The program provides teacher kits directed at the primary and middle school grades.

The Youth Conservation Corps, conducted jointly by the Department of the Interior and the Forest Service, U. S. Department of Agriculture, in cooperation with state agencies, is a program in

which young people participate annually for an 8-week work/study project in an outdoor setting. Participants range in age from 15 to 18 years and gain an understanding of ecology and resource management through actually carrying out projects.

Department of the Army

The Corps of Engineers is developing environmental education guides for use at recreation areas and reservoirs managed by the Corps.

Independent Agencies

The Environmental Protection Agency (EPA) sponsors the President's Environmental Merit Awards Program to provide recognition for school groups and individual students carrying on local projects. Under the program a local adult supervisory group establishes the standards for the award and determines which projects qualify for the program. EPA also produces a wide variety of pamphlets, brochures, and motion pictures aimed at a general audience. In the area of formal education, EPA conducts career-related short courses for persons in pollution control occupations in all EPA program areas. The Agency supported the Tilton School Project, which resulted in publication of the book "Curriculum Guide to Water Pollution Control Activities". Additional educational services are available from EPA regional offices.

The Federal Energy Administration (FEA) provides a number of materials on energy concepts and steps needed to conserve energy. An energy/environment guide for teachers grades K through 12 was prepared by the National Science Teachers Association and was sponsored jointly by the Office of Education and FEA, to be distributed to teachers free of charge. FEA also is currently sponsoring a series of energy conservation yough training workshops, modeled on the "New England Energy Conservation Corps," for high school students in 12 states.

The Energy Research and Development Administration is the new arm of the government which has taken over some responsibilities formerly assigned to the Atomic Energy Commission plus the job of research on all other sources of energy. The agency provides a variety of educational materials and a film catalog.

The National Science Foundation (NSF), in its role of supporting basic research and education in the sciences, has funded a number of curriculum development and teacher inservice projects which have strong elements of environmental education. The agency also conducts the Student Originated Studies (SOS) program. Projects are initiated, planned, and carried out by students with the counsel of university professors they select. Some SOS projects have received funding in amounts in excess of $25,000. NSF also sponsors projects concerned with environmental issues under the Public Understanding of Science Programs.

The National Endowment for the Humanities conducts a Youth Grants Program that provides funding of up to $10,000 for student-originated projects that relate to man's use of his natural environment from an historical or philosophical perspective, the thrust of which may be research, education, or knowledge dissemination.

The Tennessee Valley Authority (TVA) program provides a number of avenues to approach environmental education in both formal and informal areas of education. The major thrust is regional environmental education development which provides assistance to regional groupings of public school systems in the Tennessee Valley. Two such consortia are now operating. The agency conducts approximately 25 teacher workshops per year in the Valley to assist teachers and administrators in formulating their own environmental education programs. Environmental education areas and facilities are provided for a broad spectrum of the educational community; approximately 40,000 students used these areas in the past year.

Appendix F: ALLIANCE FOR ENVIRONMENTAL EDUCATION—AFFILIATED ORGANIZATIONS

American Association for Health, Physical Education and Recreation
American Federation of Teachers
American Forest Institute
American Nature Study Society
American Society for Ecological Education
Association for Environmental and Outdoor Education
Boy Scouts of America
Conservation Education Association
Foresta Institute
Girl Scouts of the U.S.A.
Humane Society of the United States
Izaak Walton League of America
League of Women Voters of the United States
Massachusetts Audubon Society
National Association for Environmental Education
National Association of Conservation Districts
National Audubon Society
National Council for Geographic Education
National Education Association
National Science Teachers Association
National Wildlife Federation
The Nature Conservancy
Northeastern Environmental Education Development
Soil Conservation Society of America
Thorne Ecological Institute
Western Regional Environmental Education Council
Wildlife Management Institute

Appendix G: WESTERN REGIONAL ENVIRONMENTAL EDUCATION COUNCIL—PARTICIPATING AGENCIES

Arizona State Department of Education
Arizona State Game and Fish Department
California State Department of Education
California State Department of Parks and Recreation
Colorado State Department of Education
Colorado State Division of Game, Fish and Parks
Hawaii Citizens Council on Environmental Quality
Hawaii State Department of Education
Idaho State Department of Education
Idaho State Department of Parks and Recreation
Montana State Department of Public Instruction
Nevada State Department of Education
Nevada State Department of Fish and Game
New Mexico State Department of Game and Fish
Oregon State Board of Education
Oregon State Game Commission
Utah State Board of Education
Washington State Department of Game
Washington State Department of Public Instruction
Wyoming State Department of Education
Wyoming State Game and Fish Department
United States Office of Education, Division of State Agencies Cooperation

Appendix H: CONFERENCE COMMITTEE

Conference Chairman - Rudolph J. H. Schafer, Western Regional Environmental Education Council Representative, Alliance for Environmental Education.

Working Sessions Management - Barbara B. Clark, Minnesota Environmental Sciences Foundation, Inc.

Key Issues and Major Concerns - David W. Walker, Wisconsin Environmental Education Council.

Federal Governmental Agencies - Walter E. Jeske, U. S. Soil Conservation Service.

State Departments of Education and Resource Management Agencies - David Kennedy, Washington State Department of Public Instruction.

Business, Industry and Labor - June McSwain, American Forest Institute.

Private Conservation Associations - Charles F. Roth, Massachusetts Audubon Society.

Elementary and Secondary Education - Alice Cummings, National Education Association.

Dissemination and Communication - William J. Kardash, Environmental Education Report.

Higher Education - Esther P. Railton, California State University, Hayward.

Information Services - John F. Disinger, ERIC/SMEAC.

Local Arrangements - Joan Martin, Thorne Ecological Institute; Richard Hess, Colorado Division of Wildlife; George A. Ek, Jr., Colorado Department of Education; and Ed Larsh, U.S. Office of Education, Region VIII, Colorado.

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Ilene Wright, Portland, OR;
John Yolton, United Auto Workers, Detroit.

Appendix J: SIN, a poem

SIN

We came to Snowmass under the guise of
being environmental educators. And yet --

-how many of us rented a car and
drove here from Denver?
-we groove on Snowmass Resort while we
know of better land use options
-we see construction everywhere, especially for
more roads, which facilitate the people sprawl
while we know of energy shortages and the
loss of food-producing land.
-we shower and admire the green grass on the
golf course and swim in one of the dozen or
so pools while we know that water shortages
limit agricultural growth.
-we see Arapaho Super Markets while we know
of a sad history of a people.
-we take notes on virgin paper and some of
us on only one side.
-the plastic bags, cups, glasses we freely use
and discard while we know plastic lasts nearly
forever and is appearing in animal tissue.
-our empty Coors cans go unrecycled
-we spray our underarms, our beards, our
hair while we know of the ozone.

Therefore: let us hope the end is such that it will
allow us to live with our transgressions.

Red French
7/9/75

NOTE: This poem was read into the Conference Proceedings
by its author at the July 9 general summary session.